

Homogeneous studies of transiting extrasolar planets. III. Additional planets and stellar models: Appendix

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ABSTRACT

I derive the physical properties of thirty transiting extrasolar planetary systems using a homogeneous analysis of published data. The light curves are modelled with the JKTEBOP code, with special attention paid to the treatment of limb darkening, orbital eccentricity, and error analysis. The light from some systems is contaminated by faint nearby stars, which if ignored will systematically bias the results. I show that it is not realistically possible to account for this using only transit light curves: light curve solutions must be constrained by measurements of the amount of contaminating light. A contamination of 5% is enough to make the measurement of a planetary radius 2% too low.

The physical properties of the thirty transiting systems are obtained by interpolating in tabulated predictions from theoretical stellar models to find the best match to the light curve parameters and the measured stellar velocity amplitude, temperature and metal abundance. Statistical errors are propagated by a perturbation analysis which constructs complete error budgets for each output parameter. These error budgets are used to compile a list of systems which would benefit from additional photometric or spectroscopic measurements.

The systematic errors arising from the inclusion of stellar models are assessed by using five independent sets of theoretical predictions for low-mass stars. This model dependence sets a lower limit on the accuracy of measurements of the physical properties of the systems, ranging from 1% for the stellar mass to 0.6% for the mass of the planet and 0.3% for other quantities. The stellar density and the planetary surface gravity and equilibrium temperature are not affected by this model dependence. An external test on these systematic errors is performed by comparing the two discovery papers of the WASP-11 / HAT-P-10 system: these two studies differ in their assessment of the ratio of the radii of the components and the effective temperature of the star.

I find that the correlations of planetary surface gravity and mass with orbital period have significance levels of only 3.1σ and 2.3σ , respectively. The significance of the latter has not increased with the addition of new data since Paper II. The division of planets into two classes based on Safronov number is increasingly blurred. Most of the objects studied here would benefit from improved photometric and spectroscopic observations, as well as improvements in our understanding of low-mass stars and their effective temperature scale.

Key words: stars: planetary systems — stars: binaries: eclipsing — stars: binaries: spectroscopic — stars: fundamental parameters

APPENDIX A: FULL RESULTS FOR THE TRANSITING PLANETARY SYSTEMS ANALYSED IN THIS WORK

The tables in this Appendix contain the detailed results of the analysis process for the transiting extrasolar planetary systems (TEPs) studied in this work. For each TEP this includes:

- One table for each light curve showing the individual solutions.
- One table for each TEP containing the final results for each light curve and comparison to published values.
- One table for each TEP with the individual physical properties calculated using the different sets of stellar evolutionary model predictions, the final physical properties from this work and comparison to published values.

Note that whilst all the results are best fits to the relevant data, some parameters are unphysical (for example the limb darkening coefficients imply that the limb of the star produces a negative amount of light). In these cases the unphysical results have *not* been used but are retained in the tables for completeness.

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Table A1. Parameters of the JKTEBOP best fits of the Johnson et al. (2008) Nickel *Z*-band light curve of HAT-P-1, using different approaches to LD. For each part of the table the upper quantities are fitted parameters and the lower quantities are derived parameters. T_0 is given as HJD $- 2454000.0$. The light curve contains 244 datapoints.

| | Linear LD law | Quadratic LD law | Square-root LD law | Logarithmic LD law | Cubic LD law |
|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Fitting for the linear LD coefficient and perturbing the nonlinear LD coefficient | | | | | |
| $r_A + r_b$ | 0.1040 ± 0.0079 | 0.1045 ± 0.0087 | 0.1044 ± 0.0085 | 0.1043 ± 0.0079 | 0.1041 ± 0.0080 |
| k | 0.1199 ± 0.0037 | 0.1187 ± 0.0047 | 0.1191 ± 0.0042 | 0.1188 ± 0.0041 | 0.1193 ± 0.0040 |
| i (deg.) | 86.34 ± 0.64 | 86.32 ± 0.77 | 86.33 ± 0.71 | 86.34 ± 0.67 | 86.35 ± 0.64 |
| u_A | 0.69 ± 0.14 | 0.48 ± 0.20 | 0.34 ± 0.15 | 0.85 ± 0.15 | 0.66 ± 0.15 |
| v_A | | 0.32 perturbed | 0.57 perturbed | 0.27 perturbed | 0.10 perturbed |
| T_0 | 381.8097 ± 0.0013 | 381.8098 ± 0.0012 | 381.8098 ± 0.0013 | 381.8098 ± 0.0012 | 381.8097 ± 0.0013 |
| r_A | 0.0928 ± 0.0068 | 0.0934 ± 0.0074 | 0.0933 ± 0.0073 | 0.0932 ± 0.0068 | 0.0930 ± 0.0068 |
| r_b | 0.0111 ± 0.0011 | 0.0111 ± 0.0013 | 0.0111 ± 0.0012 | 0.0111 ± 0.0012 | 0.0111 ± 0.0011 |
| σ (mmag) | 1.9364 | 1.9373 | 1.9368 | 1.9370 | 1.9367 |
| Fitting for both LD coefficients | | | | | |
| $r_A + r_b$ | 0.1040 ± 0.0075 | 0.1037 ± 0.0066 | 0.1036 ± 0.0066 | 0.1034 ± 0.0069 | 0.1035 ± 0.0067 |
| k | 0.1199 ± 0.0038 | 0.1224 ± 0.0092 | 0.1218 ± 0.0077 | 0.1219 ± 0.0075 | 0.1220 ± 0.0086 |
| i (deg.) | 86.34 ± 0.62 | 86.34 ± 0.48 | 86.33 ± 0.48 | 86.35 ± 0.49 | 86.34 ± 0.49 |
| u_A | 0.69 ± 0.13 | 1.08 ± 0.79 | 1.52 ± 2.18 | 0.40 ± 0.76 | 0.86 ± 0.39 |
| v_A | | -0.55 ± 1.19 | -1.32 ± 3.45 | -0.52 ± 1.29 | -0.41 ± 1.03 |
| T_0 | 381.8097 ± 0.0013 | 381.8094 ± 0.0015 | 381.8094 ± 0.0015 | 381.8094 ± 0.0015 | 381.8094 ± 0.0015 |
| r_A | 0.0928 ± 0.0064 | 0.0924 ± 0.0057 | 0.0924 ± 0.0058 | 0.0922 ± 0.0060 | 0.0922 ± 0.0059 |
| r_b | 0.0111 ± 0.0011 | 0.0113 ± 0.0012 | 0.0113 ± 0.0010 | 0.0112 ± 0.0011 | 0.0112 ± 0.0011 |
| σ (mmag) | 1.9364 | 1.9358 | 1.9360 | 1.9360 | 1.9360 |

Table A2. Parameters of the JKTEBOP best fits of the Johnson et al. (2008) Magnum *V*-band light curve of HAT-P-1, using different approaches to LD. For each part of the table the upper quantities are fitted parameters and the lower quantities are derived parameters. T_0 is given as HJD $- 2454000.0$. The light curve contains 253 datapoints.

| | Linear LD law | Quadratic LD law | Square-root LD law | Logarithmic LD law | Cubic LD law |
|---|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| Fitting for the linear LD coefficient and perturbing the nonlinear LD coefficient | | | | | |
| $r_A + r_b$ | 0.1081 ± 0.0073 | 0.1085 ± 0.0074 | 0.1087 ± 0.0072 | 0.1088 ± 0.0070 | 0.1083 ± 0.0071 |
| k | 0.1195 ± 0.0040 | 0.1185 ± 0.0046 | 0.1186 ± 0.0043 | 0.1187 ± 0.0045 | 0.1188 ± 0.0043 |
| i (deg.) | 86.03 ± 0.57 | 86.02 ± 0.65 | 86.02 ± 0.59 | 86.01 ± 0.58 | 86.04 ± 0.59 |
| u_A | 0.79 ± 0.14 | 0.66 ± 0.19 | 0.45 ± 0.17 | 0.91 ± 0.19 | 0.75 ± 0.16 |
| v_A | | 0.28 perturbed | 0.57 perturbed | 0.27 perturbed | 0.10 perturbed |
| T_0 | 363.94597 ± 0.00041 | 363.94598 ± 0.00044 | 363.94597 ± 0.00042 | 363.94597 ± 0.00043 | 363.94597 ± 0.00043 |
| r_A | 0.0966 ± 0.0062 | 0.0970 ± 0.0063 | 0.0972 ± 0.0061 | 0.0972 ± 0.0059 | 0.0968 ± 0.0060 |
| r_b | 0.0115 ± 0.0011 | 0.0115 ± 0.0012 | 0.0115 ± 0.0011 | 0.0115 ± 0.0011 | 0.0115 ± 0.0011 |
| σ (mmag) | 1.6748 | 1.6759 | 1.6759 | 1.6759 | 1.6756 |
| Fitting for both LD coefficients | | | | | |
| $r_A + r_b$ | 0.1081 ± 0.0071 | 0.1062 ± 0.0051 | 0.1058 ± 0.0053 | 0.1061 ± 0.0054 | 0.1061 ± 0.0052 |
| k | 0.1195 ± 0.0041 | 0.1240 ± 0.0089 | 0.1232 ± 0.0069 | 0.1237 ± 0.0084 | 0.1235 ± 0.0077 |
| i (deg.) | 86.03 ± 0.58 | 86.11 ± 0.39 | 86.11 ± 0.39 | 86.10 ± 0.38 | 86.10 ± 0.35 |
| u_A | 0.79 ± 0.13 | 1.41 ± 0.69 | 2.29 ± 1.59 | 0.34 ± 0.61 | 1.10 ± 0.33 |
| v_A | | -0.85 ± 1.03 | -2.33 ± 2.48 | -0.88 ± 1.08 | -0.65 ± 0.76 |
| T_0 | 363.94597 ± 0.00043 | 363.94598 ± 0.00042 | 363.94597 ± 0.00043 | 363.94597 ± 0.00045 | 363.94597 ± 0.00043 |
| r_A | 0.0966 ± 0.0061 | 0.0945 ± 0.0047 | 0.0942 ± 0.0045 | 0.0945 ± 0.0048 | 0.0944 ± 0.0046 |
| r_b | 0.01154 ± 0.00108 | 0.01172 ± 0.00103 | 0.01161 ± 0.00092 | 0.01168 ± 0.00099 | 0.01166 ± 0.00090 |
| σ (mmag) | 1.6748 | 1.6720 | 1.6713 | 1.6716 | 1.6717 |

Table A3. Final parameters of the fit to the Winn et al. (2007d) and Johnson et al. (2008) light curves of HAT-P-1 from the JKTEBOP analysis, compared to those found by Bakos et al. (2007a), Winn et al. (2007d) and Johnson et al. (2008). Quantities without quoted uncertainties were not given by those authors but have been calculated from other parameters which were.

| | This work (Nickel) | This work (Magnum) | Paper I (FLWO) | Paper I (Lick) | This work (final) |
|------------------|----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| $r_A + r_b$ | 0.1043 ± 0.0102 | 0.1086 ± 0.0089 | 0.1026 ± 0.0037 | 0.1056 ± 0.0056 | 0.1041 ± 0.0028 |
| k | 0.1190 ± 0.0052 | 0.1187 ± 0.0058 | 0.1125 ± 0.0011 | 0.1102 ± 0.0047 | 0.1128 ± 0.0010 |
| i ($^\circ$) | 86.34 ± 0.85 | 86.02 ± 0.7784 | 86.37 ± 0.31 | 86.10 ± 0.38 | 86.25 ± 0.22 |
| r_A | 0.0932 ± 0.0087 | 0.0971 ± 0.0075 | 0.0922 ± 0.0033 | 0.0951 ± 0.0053 | 0.0935 ± 0.0025 |
| r_b | 0.0111 ± 0.0015 | 0.0115 ± 0.0014 | 0.01037 ± 0.00046 | 0.01048 ± 0.00047 | 0.01051 ± 0.00031 |
| | Bakos et al. (2007a) | Winn et al. (2007d) | Paper I | Johnson et al. (2008) | |
| $r_A + r_b$ | 0.1089 | 0.1044 | 0.1035 ± 0.0031 | 0.1043 | |
| k | 0.122 | 0.11094 ± 0.00082 | 0.1124 ± 0.0010 | 0.11285 | |
| i ($^\circ$) | 85.9 ± 0.8 | 86.22 ± 0.24 | 86.26 ± 0.24 | 86.28 ± 0.20 | |
| r_A | 0.0971 | 0.0940 ± 0.0028 | 0.0930 ± 0.0028 | 0.0937 ± 0.0022 | |
| r_b | 0.0118 | 0.0104 ± 0.0004 | 0.01043 ± 0.00033 | 0.01058 | |

Table A4. Derived physical properties of the HAT-P-1 system. The upper part of the table contains the individual results from this work; in each case $g_b = 8.77 \pm 0.56 \text{ m s}^{-2}$, $\rho_A = 0.824 \pm 0.066 \rho_\odot$ and $T'_{\text{eq}} = 1291 \pm 20 \text{ K}$. The lower part of the table contains the final results and a comparison to published measurements.

| | This work (Mass-radius) | This work (Claret models) | This work (Y^2 models) | This work (Teramo models) | This work (VRSS models) | This work (DSEP models) |
|----------------------------------|-----------------------------------|--------------------------------|------------------------------|------------------------------|------------------------------|----------------------------|
| K_b (km s^{-1}) | 131.6 ± 3.5 | 135.5 ± 1.2 | 134.7 ± 1.1 | 134.2 ± 1.4 | 134.3 ± 1.2 | 133.8 ± 1.2 |
| M_A (M_\odot) | 1.062 ± 0.085 | 1.160 ± 0.030 | 1.140 ± 0.027 | 1.127 ± 0.035 | 1.128 ± 0.031 | 1.117 ± 0.030 |
| R_A (R_\odot) | 1.088 ± 0.050 | 1.121 ± 0.029 | 1.114 ± 0.031 | 1.110 ± 0.030 | 1.110 ± 0.030 | 1.107 ± 0.031 |
| $\log g_A$ (cgs) | 4.391 ± 0.020 | 4.403 ± 0.024 | 4.401 ± 0.024 | 4.399 ± 0.024 | 4.399 ± 0.024 | 4.398 ± 0.024 |
| M_b (M_{Jup}) | 0.501 ± 0.029 | 0.532 ± 0.016 | 0.525 ± 0.015 | 0.521 ± 0.016 | 0.522 ± 0.016 | 0.518 ± 0.015 |
| R_b (R_{Jup}) | 1.191 ± 0.047 | 1.226 ± 0.038 | 1.219 ± 0.037 | 1.215 ± 0.038 | 1.215 ± 0.038 | 1.211 ± 0.037 |
| ρ_b (ρ_{Jup}) | 0.297 ± 0.028 | 0.288 ± 0.027 | 0.290 ± 0.027 | 0.291 ± 0.027 | 0.291 ± 0.027 | 0.292 ± 0.027 |
| Θ | 0.0429 ± 0.0020 | 0.0416 ± 0.0016 | 0.0419 ± 0.0016 | 0.0420 ± 0.0016 | 0.0420 ± 0.0016 | 0.0422 ± 0.0016 |
| a (AU) | 0.05415 ± 0.00144 | 0.05577 ± 0.00049 | 0.05544 ± 0.00044 | 0.05523 ± 0.00057 | 0.05525 ± 0.00050 | 0.05507 ± 0.00049 |
| Age (Gyr) | | $1.5^{+1.2}_{-1.1}$ | $1.9^{+0.9}_{-0.9}$ | $2.4^{+1.4}_{-1.2}$ | $1.9^{+1.1}_{-1.2}$ | $2.6^{+0.9}_{-1.0}$ |
| | This work (final) | Paper II | Bakos et al. (2007a) | Winn et al. (2007d) | TWH08 | Johnson et al. (2008) |
| M_A (M_\odot) | $1.134 \pm 0.035 \pm 0.026$ | $1.156 \pm 0.030 \pm 0.026$ | 1.12 ± 0.09 fixed | 1.12 ± 0.09 fixed | $1.133^{+0.075}_{-0.079}$ | 1.133 ± 0.077 fixed |
| R_A (R_\odot) | $1.112 \pm 0.031 \pm 0.008$ | $1.113 \pm 0.034 \pm 0.008$ | $1.15^{+0.10}_{-0.07}$ fixed | 1.115 ± 0.043 | $1.135^{+0.048}_{-0.048}$ | 1.115 ± 0.050 |
| $\log g_A$ (cgs) | $4.400 \pm 0.025 \pm 0.003$ | $4.408 \pm 0.027 \pm 0.004$ | | | $4.382^{+0.027}_{-0.030}$ | |
| ρ_A (ρ_\odot) | 0.824 ± 0.066 | 0.837 ± 0.076 | | 0.809 ± 0.071 | $0.775^{+0.053}_{-0.050}$ | |
| M_b (M_{Jup}) | $0.524 \pm 0.016 \pm 0.008$ | $0.539 \pm 0.021 \pm 0.008$ | 0.53 ± 0.04 | 0.53 ± 0.04 fixed | $0.532^{+0.030}_{-0.03}$ | 0.524 ± 0.031 |
| R_b (R_{Jup}) | $1.217 \pm 0.038 \pm 0.009$ | $1.216 \pm 0.040 \pm 0.009$ | $1.36^{+0.11}_{-0.09}$ | 1.203 ± 0.051 | $1.242^{+0.053}_{-0.053}$ | 1.225 ± 0.059 |
| g_b (m s^{-1}) | 8.77 ± 0.56 | 9.05 ± 0.66 | | 9.045 ± 0.0661 | $8.53^{+0.51}_{-0.48}$ | |
| ρ_b (ρ_{Jup}) | $0.290 \pm 0.027 \pm 0.002$ | $0.300 \pm 0.031 \pm 0.002$ | | 0.303 ± 0.025 | $0.278^{+0.043}_{-0.024}$ | |
| T'_{eq} (K) | 1291 ± 20 | | | | 1306 ± 30 | |
| Θ | $0.0420 \pm 0.0017 \pm 0.0003$ | | | | $0.0418^{+0.0020}_{-0.0019}$ | |
| a (AU) | $0.05535 \pm 0.00057 \pm 0.00042$ | $0.0557 \pm 0.0005 \pm 0.0004$ | 0.0551 ± 0.0015 | 0.0551 ± 0.0015 | $0.0553^{+0.0012}_{-0.0013}$ | |
| Age (Gyr) | $2.1^{+1.4+0.5}_{-1.2-0.6}$ | $1.6^{+1.1+0.9}_{-1.3-0.9}$ | | | $2.7^{+2.6}_{-2.0}$ | |

Table A5. Parameters of the JKTEBOP best fits of the HAT-P-2 z -band FLWO light curve from Bakos et al. (2007b) and Pál et al. (2010), using different approaches to LD. For each part of the table the upper quantities are fitted parameters and the lower quantities are derived parameters. T_0 is given as HJD – 2454000.0. The light curve contains 4912 datapoints and the fits below took substantial computing time.

| | Linear LD law | Quadratic LD law | Square-root LD law | Logarithmic LD law | Cubic LD law |
|---|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| Fitting for the linear LD coefficient and perturbing the nonlinear LD coefficient | | | | | |
| $r_A + r_b$ | 0.1277 ± 0.0020 | 0.1238 ± 0.0022 | 0.1247 ± 0.0021 | 0.1240 ± 0.0021 | 0.1262 ± 0.0022 |
| k | 0.07352 ± 0.00018 | 0.07267 ± 0.00025 | 0.07296 ± 0.00021 | 0.07278 ± 0.00024 | 0.07320 ± 0.00026 |
| i (deg.) | 85.41 ± 0.23 | 86.04 ± 0.31 | 85.86 ± 0.26 | 86.00 ± 0.28 | 85.64 ± 0.28 |
| u_A | 0.357 ± 0.012 | 0.156 ± 0.042 | 0.004 ± 0.043 | 0.530 ± 0.043 | 0.322 ± 0.026 |
| v_A | | 0.33 perturbed | 0.58 perturbed | 0.28 perturbed | 0.10 perturbed |
| T_0 | 387.49222 ± 0.00021 | 387.49278 ± 0.00026 | 387.49262 ± 0.00023 | 387.49274 ± 0.00024 | 387.49244 ± 0.00026 |
| r_A | 0.1190 ± 0.0018 | 0.1154 ± 0.0021 | 0.1162 ± 0.0019 | 0.1156 ± 0.0020 | 0.1176 ± 0.0020 |
| r_b | 0.00875 ± 0.00015 | 0.00839 ± 0.00017 | 0.00848 ± 0.00016 | 0.00841 ± 0.00016 | 0.00861 ± 0.00017 |
| σ (mmag) | 2.8269 | 2.8270 | 2.8269 | 2.8269 | 2.8269 |
| χ^2_{red} | 18.1856 | 18.1873 | 18.1856 | 18.1860 | 18.1857 |
| Fitting for both LD coefficients | | | | | |
| $r_A + r_b$ | 0.1277 ± 0.0019 | 0.1278 ± 0.0021 | 0.1246 ± 0.0022 | 0.1251 ± 0.0022 | 0.1276 ± 0.0021 |
| k | 0.07352 ± 0.00019 | 0.07354 ± 0.00029 | 0.07298 ± 0.00035 | 0.07311 ± 0.00032 | 0.07347 ± 0.00032 |
| i (deg.) | 85.41 ± 0.22 | 85.39 ± 0.26 | 85.87 ± 0.30 | 85.78 ± 0.30 | 85.43 ± 0.27 |
| u_A | 0.357 ± 0.012 | 0.360 ± 0.071 | 0.040 ± 0.225 | 0.435 ± 0.076 | 0.347 ± 0.037 |
| v_A | | -0.0050 ± 0.1070 | 0.5215 ± 0.3628 | 0.1271 ± 0.1219 | 0.0245 ± 0.0899 |
| T_0 | 387.49222 ± 0.00021 | 387.49221 ± 0.00025 | 387.49264 ± 0.00026 | 387.49257 ± 0.00025 | 387.49223 ± 0.00025 |
| r_A | 0.1190 ± 0.0018 | 0.1191 ± 0.0019 | 0.1161 ± 0.0021 | 0.1166 ± 0.0020 | 0.1189 ± 0.0019 |
| r_b | 0.00875 ± 0.00014 | 0.00876 ± 0.00017 | 0.00847 ± 0.00018 | 0.00853 ± 0.00017 | 0.00873 ± 0.00017 |
| σ (mmag) | 2.8269 | 2.8269 | 2.8269 | 2.8269 | 2.8269 |
| χ^2_{red} | 18.1856 | 18.1893 | 18.1893 | 18.1895 | 18.1893 |

Table A6. Parameters of the JKTEBOP best fits of the HAT-P-2 z -band Perkins light curve from Pál et al. (2010), using different approaches to LD. For each part of the table the upper quantities are fitted parameters and the lower quantities are derived parameters. T_0 is given as HJD – 2454000.0. The light curve contains 328 datapoints.

| | Linear LD law | Quadratic LD law | Square-root LD law | Logarithmic LD law | Cubic LD law |
|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Fitting for the linear LD coefficient and perturbing the nonlinear LD coefficient | | | | | |
| $r_A + r_b$ | 0.0834 ± 0.0079 | 0.1014 ± 0.0179 | 0.0854 ± 0.0090 | 0.0988 ± 0.0165 | 0.0835 ± 0.0082 |
| k | 0.0813 ± 0.0015 | 0.0818 ± 0.0014 | 0.0813 ± 0.0014 | 0.0817 ± 0.0014 | 0.0813 ± 0.0013 |
| i (deg.) | 88.4 ± 1.5 | 89.9 ± 1.9 | 88.0 ± 1.7 | 89.9 ± 1.9 | 88.3 ± 1.5 |
| u_A | 0.105 ± 0.094 | -0.177 ± 0.148 | -0.250 ± 0.108 | 0.194 ± 0.137 | 0.070 ± 0.093 |
| v_A | | 0.33 perturbed | 0.58 perturbed | 0.28 perturbed | 0.10 perturbed |
| T_0 | 387.4743 ± 0.0037 | 387.4905 ± 0.0137 | 387.4742 ± 0.0037 | 387.4885 ± 0.0116 | 387.4739 ± 0.0032 |
| r_A | 0.0771 ± 0.0073 | 0.0937 ± 0.0165 | 0.0790 ± 0.0083 | 0.0913 ± 0.0152 | 0.0772 ± 0.0076 |
| r_b | 0.00627 ± 0.00061 | 0.00767 ± 0.00137 | 0.00642 ± 0.00073 | 0.00746 ± 0.00129 | 0.00628 ± 0.00064 |
| σ (mmag) | 2.3395 | 2.3412 | 2.3393 | 2.3412 | 2.3392 |
| χ^2_{red} | 2.4929 | 2.4967 | 2.4926 | 2.4967 | 2.4925 |
| Fitting for both LD coefficients | | | | | |
| $r_A + r_b$ | 0.0834 ± 0.0081 | 0.0997 ± 0.0175 | 0.1047 ± 0.0200 | 0.1023 ± 0.0201 | 0.1019 ± 0.0192 |
| k | 0.0813 ± 0.0014 | 0.0817 ± 0.0026 | 0.0819 ± 0.0028 | 0.0817 ± 0.0039 | 0.0816 ± 0.0040 |
| i (deg.) | 88.4 ± 1.4 | 89.5 ± 2.2 | 89.9 ± 2.2 | 90.0 ± 2.3 | 90.0 ± 2.1 |
| u_A | 0.105 ± 0.092 | -0.181 ± 0.718 | -0.454 ± 2.561 | 0.313 ± 1.267 | -0.135 ± 0.423 |
| v_A | | 0.35 ± 1.05 | 0.74 ± 3.95 | 0.48 ± 2.11 | 0.45 ± 1.73 |
| T_0 | 387.4743 ± 0.0037 | 387.4890 ± 0.0112 | 387.4930 ± 0.0156 | 387.4911 ± 0.0129 | 387.4907 ± 0.0136 |
| r_A | 0.0771 ± 0.0075 | 0.0921 ± 0.0161 | 0.0968 ± 0.0185 | 0.0946 ± 0.0186 | 0.0942 ± 0.0179 |
| r_b | 0.00627 ± 0.00063 | 0.00753 ± 0.00124 | 0.00792 ± 0.00150 | 0.00773 ± 0.00135 | 0.00769 ± 0.00140 |
| σ (mmag) | 2.3395 | 2.3412 | 2.3421 | 2.3413 | 2.3411 |
| χ^2_{red} | 2.4929 | 2.5043 | 2.5062 | 2.5047 | 2.5041 |

Table A7. Final parameters of the fits to the z -band light curves of HAT-P-2 from the JKTEBOP analysis, compared to those found in literature studies. Quantities without quoted uncertainties were not given by those authors but have been calculated from other parameters which were.

| | This work (FLWO) | This work (Perkins) | This work (final) | Bakos et al. (2007b) | Winn et al. (2007c) | Loeillet et al. (2008) | TWH08 | Pál et al. (2010) |
|------------------|-----------------------|------------------------|-----------------------|------------------------------|------------------------|---------------------------------|---------------------------------|------------------------------|
| $r_A + r_b$ | 0.1247 ± 0.0106 | 0.088 ± 0.032 | 0.1247 ± 0.0106 | 0.1094 | | 0.1040 | 0.1056 | 0.1192 |
| k | 0.0729 ± 0.0013 | 0.0815 ± 0.0025 | 0.0729 ± 0.0013 | 0.0684 ± 0.0009 | | $0.06891^{+0.00090}_{-0.00086}$ | $0.06840^{+0.00087}_{-0.00073}$ | 0.07227 ± 0.00061 |
| i ($^\circ$) | 85.9 ± 1.5 | $88.9^{+1.1}_{-3.4}$ | 85.9 ± 1.5 | > 84.6 | > 86.8 | $90.0^{+0.85}_{-0.93}$ | $90.0^{+0.0}_{-3.4}$ | $86.72^{+1.12}_{-0.87}$ |
| r_A | 0.1162 ± 0.0099 | 0.081 ± 0.030 | 0.1162 ± 0.0099 | $0.1024^{+0.0002}_{-0.0104}$ | | $0.0973^{+0.0018}_{-0.0011}$ | $0.0988^{+0.0088}_{-0.0003}$ | $0.1112^{+0.0049}_{-0.0050}$ |
| r_b | 0.00847 ± 0.00082 | 0.0066 ± 0.0023 | 0.00847 ± 0.00082 | 0.00700 | | 0.00670 | 0.00676 | 0.00804 |

Table A8. Derived physical properties of the HAT-P-2 system. The upper part of the table contains the individual results from this work; in each case $g_b = 152 \pm 30 \text{ m s}^{-2}$, $\rho_A = 0.268 \pm 0.070 \rho_\odot$ and $T'_{\text{eq}} = 1516 \pm 66 \text{ K}$. The lower part of the table contains the final results and a comparison to published measurements.

| | This work (Mass-radius) | This work (Claret models) | This work (Y^2 models) | This work (Teramo models) | This work (VRSS models) | This work (DSEP models) |
|----------------------------------|----------------------------|------------------------------|------------------------------|------------------------------|----------------------------|----------------------------|
| K_b (km s^{-1}) | 171.1 ± 8.1 | 151.4 ± 1.5 | 150.8 ± 1.5 | 150.7 ± 1.7 | 150.7 ± 1.5 | 149.9 ± 1.7 |
| M_A (M_\odot) | 1.869 ± 0.262 | 1.296 ± 0.036 | 1.281 ± 0.037 | 1.279 ± 0.041 | 1.278 ± 0.036 | 1.260 ± 0.042 |
| R_A (R_\odot) | 1.91 ± 0.25 | 1.69 ± 0.15 | 1.68 ± 0.15 | 1.68 ± 0.15 | 1.68 ± 0.15 | 1.67 ± 0.15 |
| $\log g_A$ (cgs) | 4.148 ± 0.056 | 4.094 ± 0.074 | 4.093 ± 0.074 | 4.093 ± 0.074 | 4.092 ± 0.074 | 4.090 ± 0.074 |
| M_b (M_{Jup}) | 11.26 ± 1.07 | 8.82 ± 0.23 | 8.75 ± 0.23 | 8.75 ± 0.24 | 8.74 ± 0.22 | 8.66 ± 0.25 |
| R_b (R_{Jup}) | 1.36 ± 0.15 | 1.20 ± 0.12 | 1.20 ± 0.12 | 1.19 ± 0.12 | 1.19 ± 0.12 | 1.19 ± 0.12 |
| ρ_b (ρ_{Jup}) | 4.5 ± 1.4 | 5.1 ± 1.5 | 5.1 ± 1.5 | 5.1 ± 1.5 | 5.1 ± 1.5 | 5.2 ± 1.5 |
| Θ | 0.679 ± 0.075 | 0.767 ± 0.077 | 0.770 ± 0.077 | 0.771 ± 0.077 | 0.771 ± 0.077 | 0.775 ± 0.077 |
| a (AU) | 0.07647 ± 0.00357 | 0.06770 ± 0.00063 | 0.06743 ± 0.00064 | 0.06741 ± 0.00072 | 0.06738 ± 0.00062 | 0.06706 ± 0.00074 |
| Age (Gyr) | | $2.8^{+0.3}_{-0.7}$ | $2.4^{+0.4}_{-0.5}$ | $2.6^{+0.3}_{-0.5}$ | $2.3^{+0.3}_{-0.5}$ | $3.1^{+0.2}_{-0.5}$ |

| | This work (final) | Bakos et al. (2007b) | Winn et al. (2007c) | Loeillet et al. (2008) | TWH08 | Pál et al. (2010) |
|----------------------------------|-----------------------------------|---------------------------|---------------------|------------------------------|------------------------------|---------------------------|
| M_A (M_\odot) | $1.279 \pm 0.042 \pm 0.019$ | $1.298^{+0.062}_{-0.098}$ | 1.32 ± 0.08 | $1.298^{+0.062}_{-0.098}$ | $1.308^{+0.088}_{-0.078}$ | 1.36 ± 0.04 |
| R_A (R_\odot) | $1.68 \pm 0.15 \pm 0.01$ | $1.474^{+0.042}_{-0.167}$ | 1.48 ± 0.05 | $1.416^{+0.040}_{-0.062}$ | $1.506^{+0.13}_{-0.096}$ | $1.64^{+0.09}_{-0.08}$ |
| $\log g_A$ (cgs) | $4.092 \pm 0.074 \pm 0.002$ | 4.22 ± 0.14 | | | $4.199^{+0.043}_{-0.053}$ | 4.138 ± 0.035 |
| ρ_A (ρ_\odot) | 0.268 ± 0.070 | | | | $0.439^{+0.004}_{-0.114}$ | |
| M_b (M_{Jup}) | $8.74 \pm 0.25 \pm 0.09$ | 9.05 ± 0.50 | 8.04 ± 0.40 | $8.62^{+0.39}_{-0.55}$ | $8.72^{+0.39}_{-0.36}$ | 9.09 ± 0.24 |
| R_b (R_{Jup}) | $1.19 \pm 0.12 \pm 0.01$ | $0.982^{+0.038}_{-0.105}$ | 0.98 ± 0.04 | $0.951^{+0.039}_{-0.053}$ | $1.003^{+0.084}_{-0.066}$ | $1.157^{+0.073}_{-0.092}$ |
| g_b (ms^{-1}) | 152 ± 30 | 227^{+46}_{-16} | | 237^{+30}_{-41} | 234^{+10}_{-39} | 168 ± 17 |
| ρ_b (ρ_{Jup}) | $5.1 \pm 1.5 \pm 0.0$ | $9.6^{+3.9}_{-1.3}$ | | $10.1^{+2.1}_{-2.9}$ | $8.6^{+2.0}_{-1.9}$ | 5.88 ± 0.90 |
| T'_{eq} (K) | 1516 ± 66 | | | | 1398^{+61}_{-33} | 1540 ± 30 |
| Θ | $0.771 \pm 0.077 \pm 0.004$ | | | | $0.941^{+0.035}_{-0.075}$ | |
| a (AU) | $0.06740 \pm 0.00074 \pm 0.00034$ | 0.0677 ± 0.0014 | | $0.0677^{+0.0011}_{-0.0017}$ | $0.0679^{+0.0015}_{-0.0014}$ | 0.06878 ± 0.00068 |
| Age (Gyr) | $2.6^{+0.4+0.5}_{-0.7-0.3}$ | $2.6^{+0.8}_{-1.4}$ | | | $2.6^{+0.8}_{-0.8}$ | 2.6 ± 0.5 |

Table A9. Parameters of the JKTEBOP best fits of the OGLE-TR-113 R_C -band light curve from Gillon et al. (2006), using different approaches to LD. For each part of the table the upper quantities are fitted parameters and the lower quantities are derived parameters. T_0 is given as HJD – 2453000.0. The light curve contains 488 datapoints.

| | Linear LD law | Quadratic LD law | Square-root LD law | Logarithmic LD law | Cubic LD law |
|---|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| Fitting for the linear LD coefficient and perturbing the nonlinear LD coefficient | | | | | |
| $r_A + r_b$ | 0.1834 ± 0.0048 | 0.1820 ± 0.0046 | 0.1827 ± 0.0049 | 0.1823 ± 0.0047 | 0.1822 ± 0.0047 |
| k | 0.1477 ± 0.0016 | 0.1459 ± 0.0018 | 0.1467 ± 0.0017 | 0.1463 ± 0.0018 | 0.1465 ± 0.0018 |
| i (deg.) | 87.46 ± 0.96 | 88.02 ± 1.47 | 87.73 ± 1.25 | 87.88 ± 1.44 | 87.84 ± 1.42 |
| u_A | 0.594 ± 0.034 | 0.525 ± 0.046 | 0.401 ± 0.051 | 0.731 ± 0.059 | 0.584 ± 0.036 |
| v_A | | 0.19 perturbed | 0.35 perturbed | 0.17 perturbed | 0.10 perturbed |
| T_0 | 464.61639 ± 0.00010 | 464.61640 ± 0.00010 | 464.61640 ± 0.00010 | 464.61640 ± 0.00010 | 464.61640 ± 0.00010 |
| r_A | 0.1598 ± 0.0040 | 0.1588 ± 0.0038 | 0.1593 ± 0.0041 | 0.1590 ± 0.0039 | 0.1589 ± 0.0039 |
| r_b | 0.02360 ± 0.00081 | 0.02317 ± 0.00082 | 0.02338 ± 0.00085 | 0.02326 ± 0.00084 | 0.02329 ± 0.00081 |
| σ (mmag) | 1.6331 | 1.6403 | 1.6353 | 1.6370 | 1.6353 |
| Fitting for both LD coefficients | | | | | |
| $r_A + r_b$ | 0.1834 ± 0.0045 | 0.1910 ± 0.0030 | 0.1907 ± 0.0027 | 0.1907 ± 0.0029 | 0.1911 ± 0.0030 |
| k | 0.1477 ± 0.0015 | 0.1561 ± 0.0016 | 0.1571 ± 0.0015 | 0.1567 ± 0.0015 | 0.1568 ± 0.0015 |
| i (deg.) | 87.46 ± 0.95 | 85.67 ± 0.35 | 85.58 ± 0.31 | 85.63 ± 0.34 | 85.56 ± 0.35 |
| u_A | 0.594 ± 0.033 | 1.245 ± 0.158 | 3.275 ± 0.510 | -0.410 ± 0.164 | 0.913 ± 0.083 |
| v_A | | -1.22 ± 0.25 | -4.52 ± 0.80 | -1.50 ± 0.28 | -1.18 ± 0.21 |
| T_0 | 464.616394 ± 0.000099 | 464.616386 ± 0.000093 | 464.616380 ± 0.000092 | 464.616382 ± 0.000091 | 464.616380 ± 0.000091 |
| r_A | 0.1598 ± 0.0038 | 0.1652 ± 0.0025 | 0.1648 ± 0.0022 | 0.1649 ± 0.0024 | 0.1652 ± 0.0025 |
| r_b | 0.02360 ± 0.00078 | 0.02579 ± 0.00058 | 0.02589 ± 0.00051 | 0.02583 ± 0.00054 | 0.02591 ± 0.00057 |
| σ (mmag) | 1.6331 | 1.6073 | 1.6097 | 1.6087 | 1.6092 |

Table A10. Parameters of the JKTEBOP best fits of the OGLE-TR-113 K_s -band light curve from Snellen & Covino (2007), using different approaches to LD. For each part of the table the upper quantities are fitted parameters and the lower quantities are derived parameters. The data were supplied as a function of orbital phase, so the orbital period was fixed at 1.0 and T_0 was put to 0.0 but included as a fitted parameter. The light curve contains 665 datapoints.

| | Linear LD law | Quadratic LD law | Square-root LD law | Logarithmic LD law | Cubic LD law |
|---|------------------------|------------------------|------------------------|------------------------|------------------------|
| All LD coefficients fixed | | | | | |
| $r_A + r_b$ | 0.194 ± 0.017 | 0.178 ± 0.012 | 0.193 ± 0.016 | 0.184 ± 0.011 | 0.193 ± 0.015 |
| k | 0.1468 ± 0.0032 | 0.1445 ± 0.0027 | 0.1466 ± 0.0029 | 0.1454 ± 0.0028 | 0.1485 ± 0.0026 |
| i (deg.) | 85.9 ± 2.6 | 89.3 ± 2.3 | 86.0 ± 2.6 | 87.4 ± 2.3 | 85.7 ± 1.8 |
| u_A | 0.30 fixed | 0.04 fixed | -0.17 fixed | 0.47 fixed | 0.00 fixed |
| v_A | | 0.40 fixed | 0.70 fixed | 0.34 fixed | 0.20 fixed |
| T_0 | -0.00020 ± 0.00031 | -0.00013 ± 0.00029 | -0.00020 ± 0.00033 | -0.00017 ± 0.00028 | -0.00019 ± 0.00030 |
| r_A | 0.1690 ± 0.0145 | 0.1553 ± 0.0101 | 0.1682 ± 0.0136 | 0.1604 ± 0.0097 | 0.1682 ± 0.0127 |
| r_b | 0.0248 ± 0.0025 | 0.0224 ± 0.0017 | 0.0247 ± 0.0023 | 0.0233 ± 0.0017 | 0.0250 ± 0.0020 |
| σ (mmag) | 9.6319 | 9.6178 | 9.6222 | 9.6200 | 9.6024 |
| Fitting for the linear LD coefficient and fixing the nonlinear LD coefficient | | | | | |
| $r_A + r_b$ | 0.200 ± 0.015 | 0.200 ± 0.016 | 0.200 ± 0.015 | 0.200 ± 0.015 | 0.200 ± 0.017 |
| k | 0.1504 ± 0.0028 | 0.1495 ± 0.0029 | 0.1498 ± 0.0030 | 0.1497 ± 0.0029 | 0.1498 ± 0.0029 |
| i (deg.) | 84.8 ± 1.5 | 84.8 ± 1.8 | 84.9 ± 1.7 | 84.8 ± 1.6 | 84.9 ± 1.8 |
| u_A | -0.13 ± 0.27 | -0.40 ± 0.32 | -0.56 ± 0.28 | 0.06 ± 0.29 | -0.20 ± 0.30 |
| v_A | | 0.40 fixed | 0.70 fixed | 0.34 fixed | 0.20 fixed |
| T_0 | -0.00017 ± 0.00027 | -0.00018 ± 0.00029 | -0.00018 ± 0.00029 | -0.00018 ± 0.00029 | -0.00018 ± 0.00030 |
| r_A | 0.174 ± 0.013 | 0.174 ± 0.014 | 0.174 ± 0.013 | 0.174 ± 0.013 | 0.174 ± 0.014 |
| r_b | 0.0261 ± 0.0020 | 0.0260 ± 0.0021 | 0.0260 ± 0.0021 | 0.0261 ± 0.0020 | 0.0260 ± 0.0023 |
| σ (mmag) | 9.5974 | 9.5979 | 9.5977 | 9.5978 | 9.5977 |

Table A11. Parameters of the JKTEBOP best fits of the OGLE-TR-113 V -band light curve from Díaz et al. (2007), using different approaches to LD. For each part of the table the upper quantities are fitted parameters and the lower quantities are derived parameters. T_0 is given as HJD – 2453000.0. The light curve contains 146 datapoints.

| | Linear LD law | Quadratic LD law | Square-root LD law | Logarithmic LD law | Cubic LD law |
|---|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|
| Fitting for the linear LD coefficient and perturbing the nonlinear LD coefficient | | | | | |
| $r_A + r_b$ | $0.1549^{+0.0342}_{-0.0103}$ | $0.1552^{+0.0371}_{-0.0101}$ | $0.1552^{+0.0359}_{-0.0084}$ | $0.1556^{+0.0360}_{-0.0109}$ | $0.1549^{+0.0397}_{-0.0121}$ |
| k | $0.1406^{+0.0075}_{-0.0062}$ | $0.1402^{+0.0077}_{-0.0073}$ | $0.1402^{+0.0071}_{-0.0074}$ | $0.1399^{+0.0077}_{-0.0070}$ | $0.1406^{+0.0081}_{-0.0086}$ |
| i (deg.) | $90.0^{+0.0}_{-3.6}$ | $89.9^{+0.1}_{-3.9}$ | $89.9^{+0.1}_{-3.8}$ | $90.0^{+0.0}_{-3.7}$ | $89.9^{+0.1}_{-4.2}$ |
| u_A | $0.68^{+0.20}_{-0.16}$ | $0.67^{+0.23}_{-0.17}$ | $0.60^{+0.21}_{-0.15}$ | $0.77^{+0.24}_{-0.18}$ | $0.68^{+0.23}_{-0.17}$ |
| v_A | | 0.04 perturbed | 0.16 perturbed | 0.10 perturbed | 0.00 perturbed |
| T_0 | $471.77836^{+0.00035}_{-0.00037}$ | $471.77835^{+0.00038}_{-0.00035}$ | $471.77835^{+0.00039}_{-0.00035}$ | $471.77835^{+0.00036}_{-0.00039}$ | $471.77836^{+0.00039}_{-0.00041}$ |
| r_A | $0.1358^{+0.0283}_{-0.0092}$ | $0.1361^{+0.0309}_{-0.0089}$ | $0.1362^{+0.0309}_{-0.0080}$ | $0.1365^{+0.0301}_{-0.0093}$ | $0.1358^{+0.0348}_{-0.0103}$ |
| r_b | $0.01909^{+0.00482}_{-0.00096}$ | $0.01909^{+0.00524}_{-0.00096}$ | $0.01909^{+0.00496}_{-0.00081}$ | $0.01909^{+0.00519}_{-0.00103}$ | $0.01909^{+0.00548}_{-0.00121}$ |
| σ (mmag) | 1.8795 | 1.8800 | 1.8799 | 1.8803 | 1.8795 |
| Fitting for both LD coefficients | | | | | |
| $r_A + r_b$ | $0.1549^{+0.0386}_{-0.0103}$ | $0.1500^{+0.0410}_{-0.0188}$ | $0.1480^{+0.0415}_{-0.0156}$ | $0.1771^{+0.0214}_{-0.0076}$ | $0.1849^{+0.0155}_{-0.0189}$ |
| k | $0.1406^{+0.0074}_{-0.0074}$ | $0.1457^{+0.0082}_{-0.0197}$ | $0.1481^{+0.0067}_{-0.0157}$ | $0.1252^{+0.0067}_{-0.0051}$ | $0.1524^{+0.0101}_{-0.0106}$ |
| i (deg.) | $90.0^{+0.0}_{-4.2}$ | $89.8^{+0.2}_{-4.2}$ | $89.8^{+0.2}_{-6.1}$ | $87.6^{+2.3}_{-2.7}$ | $84.8^{+2.1}_{-1.2}$ |
| u_A | $0.681^{+0.214}_{-0.174}$ | $0.998^{+1.128}_{-0.620}$ | $3.280^{+1.977}_{-2.821}$ | $2.962^{+0.343}_{-0.072}$ | $0.925^{+0.448}_{-0.319}$ |
| v_A | | $-0.89^{+1.94}_{-1.17}$ | $-4.68^{+4.25}_{-4.10}$ | $2.84^{+0.78}_{-0.36}$ | $-0.62^{+1.22}_{-1.04}$ |
| T_0 | $471.77836^{+0.00034}_{-0.00035}$ | $471.77837^{+0.00041}_{-0.00037}$ | $471.77839^{+0.00038}_{-0.00040}$ | $471.77858^{+0.00026}_{-0.00033}$ | $471.77810^{+0.00040}_{-0.00039}$ |
| r_A | $0.1358^{+0.0314}_{-0.0090}$ | $0.1309^{+0.0387}_{-0.0159}$ | $0.1289^{+0.0353}_{-0.0134}$ | $0.1574^{+0.0179}_{-0.0066}$ | $0.1604^{+0.0132}_{-0.0149}$ |
| r_b | $0.01909^{+0.00529}_{-0.00098}$ | $0.01908^{+0.00579}_{-0.00170}$ | $0.01909^{+0.00628}_{-0.00171}$ | $0.01971^{+0.00350}_{-0.00127}$ | $0.02446^{+0.00341}_{-0.00369}$ |
| σ (mmag) | 1.8795 | 1.8737 | 1.8720 | 1.9941 | 1.8787 |

Table A12. Final parameters of the fit to the three light curves of OGLE-TR-113 from the JKTEBOP analysis, compared to those from the literature. Quantities without quoted uncertainties were not given by those authors but have been calculated from other parameters which were.

| | This work (R_C data) | This work (K_s data) | This work (V data) | This work (final) | | | |
|-------------|-------------------------|--------------------------|------------------------------|-------------------------|----------------------------|-----------------------|------------------------------|
| $r_A + r_b$ | 0.1823 ± 0.0055 | 0.1854 ± 0.0173 | $0.155^{+0.013}_{-0.040}$ | 0.1826 ± 0.0052 | | | |
| k | 0.1464 ± 0.0024 | 0.1463 ± 0.0032 | $0.140^{+0.015}_{-0.008}$ | 0.1464 ± 0.0019 | | | |
| i (°) | 87.9 ± 1.6 | 87.0 ± 2.9 | $89.9^{+0.1}_{-2.8}$ | 87.7 ± 1.4 | | | |
| r_A | 0.1590 ± 0.0045 | 0.1617 ± 0.0147 | $0.136^{+0.011}_{-0.035}$ | 0.1592 ± 0.0043 | | | |
| r_b | 0.02327 ± 0.00095 | 0.0236 ± 0.0025 | $0.0191^{+0.0015}_{-0.0055}$ | 0.02331 ± 0.00089 | | | |
| | Bouchy et al. (2004) | Konacki et al. (2004) | Giménez (2006) | Gillon et al. (2006) | Snellen & Covino (2007) | Díaz et al. (2007) | TWH08 |
| $r_A + r_b$ | 0.179 | 0.181 | 0.181 | 0.179 | | 0.177 | 0.1794 |
| k | 0.145 | 0.144 | 0.145 ± 0.002 | 0.145 | 0.151 ± 0.002 | 0.145 | $0.1450^{+0.0016}_{-0.0005}$ |
| i (°) | 85 to 90 | 88.4 ± 2.2 | 88.2 ± 1.8 | 88.8 to 90.0 | | 86.66 ± 3.34 | $87.80^{+1.6}_{-0.62}$ |
| r_A | 0.156 | 0.158 | 0.158 ± 0.005 | 0.156 | | 0.154 | $0.1567^{+0.0064}_{-0.0007}$ |
| r_b | 0.0226 | 0.0227 | 0.0229 | 0.0227 | | 0.0225 | 0.02272 |

Table A13. Derived physical properties of the OGLE-TR-113 system. The upper part of the table contains the individual results from this work; in each case $g_b = 25.0 \pm 3.7 \text{ m s}^{-2}$, $\rho_A = 1.62 \pm 0.13 \rho_\odot$ and $T'_{\text{eq}} = 1355 \pm 35 \text{ K}$. The lower part of the table contains the final results and a comparison to published measurements.

| | This work (Mass-radius) | This work (<i>Claret</i> models) | This work (<i>Y</i> ² models) | This work (<i>Teramo</i> models) | This work (<i>VRSS</i> models) | This work (<i>DSEP</i> models) |
|------------------------------------|----------------------------|---------------------------------------|--|--------------------------------------|--------------------------------------|--------------------------------------|
| $K_{\rm b}$ (km s ^{−1}) | 171.6 ± 5.3 | 174.0 ± 3.5 | 172.8 ± 3.6 | 171.6 ± 2.6 | 170.9 ± 1.4 | 173.8 ± 3.5 |
| $M_{\rm A}$ (M _⊙) | 0.755 ± 0.070 | 0.786 ± 0.048 | 0.770 ± 0.048 | 0.754 ± 0.035 | 0.745 ± 0.018 | 0.784 ± 0.047 |
| $R_{\rm A}$ (R _⊙) | 0.775 ± 0.038 | 0.786 ± 0.021 | 0.780 ± 0.024 | 0.775 ± 0.029 | 0.772 ± 0.022 | 0.785 ± 0.022 |
| log $g_{\rm A}$ (cgs) | 4.537 ± 0.021 | 4.543 ± 0.028 | 4.540 ± 0.026 | 4.537 ± 0.020 | 4.535 ± 0.024 | 4.542 ± 0.027 |
| $M_{\rm b}$ (M _{Jup}) | 1.23 ± 0.17 | 1.26 ± 0.17 | 1.25 ± 0.17 | 1.23 ± 0.16 | 1.22 ± 0.16 | 1.26 ± 0.17 |
| $R_{\rm b}$ (R _{Jup}) | 1.105 ± 0.054 | 1.120 ± 0.049 | 1.112 ± 0.048 | 1.104 ± 0.046 | 1.100 ± 0.043 | 1.119 ± 0.048 |
| $\rho_{\rm b}$ (ρ _{Jup}) | 0.91 ± 0.16 | 0.90 ± 0.16 | 0.91 ± 0.16 | 0.91 ± 0.16 | 0.92 ± 0.16 | 0.90 ± 0.16 |
| Θ | 0.0667 ± 0.0091 | 0.0658 ± 0.0089 | 0.0663 ± 0.0089 | 0.0668 ± 0.0090 | 0.0670 ± 0.0089 | 0.0659 ± 0.0089 |
| a (AU) | 0.02265 ± 0.00070 | 0.02296 ± 0.00046 | 0.02280 ± 0.00047 | 0.02264 ± 0.00034 | 0.02256 ± 0.00018 | 0.02294 ± 0.00046 |
| Age (Gyr) | | 17.5 ^{+4.2} _{−12.2} | 14.4 ^{+6.0} _{−5.6} | 20.0 ^{+0.0} _{−5.8} | 20.0 ^{+0.0} _{−4.2} | 11.9 ^{+6.1} _{−5.9} |

| | This work (final) | Udalski et al. (2002) | Bouchy et al. (2004) | Konacki et al. (2004) | Giménez (2006) | Gillon et al. (2006) | Díaz et al. (2007) | TWH08 |
|------------------------------------|-----------------------------|--------------------------|--|-------------------------------------|-------------------|-------------------------|-----------------------|---|
| $M_{\rm A}$ (M _⊙) | 0.768 ± 0.048 ± 0.022 | 1.0 fixed | 0.77±0.06 | 0.79±0.06 | | 0.78±0.02 | 0.78±0.02 | 0.799 ^{+0.017} _{−0.015} |
| $R_{\rm A}$ (R _⊙) | 0.780 ± 0.029 ± 0.008 | 0.86 | 0.765±0.025 | 0.78±0.06 | 0.78±0.05 | 0.77±0.02 | 0.77±0.02 | 0.774 ^{+0.020} _{−0.011} |
| log $g_{\rm A}$ (cgs) | 4.539 ± 0.028 ± 0.004 | | 4.50±0.53 | 4.5 ^{+0.5} _{−0.8} | | | | 4.552 ^{+0.009} _{−0.017} |
| $\rho_{\rm A}$ (ρ _⊙) | 1.62 ± 0.13 | | | | | | | 1.70 ^{+0.20} _{−0.21} |
| $M_{\rm b}$ (M _{Jup}) | 1.244 ± 0.170 ± 0.024 | | 1.35±0.22 | 1.08±0.06 | | 1.32±0.19 | 1.32±0.19 | 1.26 ^{+0.16} _{−0.16} |
| $R_{\rm b}$ (R _{Jup}) | 1.111 ± 0.049 ± 0.011 | 1.29 | 1.08 ^{+0.07} _{−0.05} | 1.09±0.10 | 1.10±0.08 | 1.09±0.03 | 1.09±0.09 | 1.093 ^{+0.028} _{−0.019} |
| $g_{\rm b}$ (m s ^{−1}) | 25.0 ± 3.7 | | | | | | | 26.2 ^{+3.7} _{−3.6} |
| $\rho_{\rm b}$ (ρ _{Jup}) | 0.906 ± 0.157 ± 0.009 | | 1.0±0.2 | 1.0±0.4 | | 1.0±0.2 | 1.02±0.40 | 0.97 ^{+0.14} _{−0.13} |
| $T_{\rm eq}'$ (K) | 1355 ± 35 | | | | | | | 1341 ⁺³⁰ _{−25} |
| Θ | 0.0664 ± 0.0090 ± 0.0007 | | | | | | | 0.0667 ^{+0.0086} _{−0.0087} |
| a (AU) | 0.02278 ± 0.00047 ± 0.00022 | | 0.0228±0.0006 | 0.02299±0.00058 | | 0.0229±0.0002 | 0.0232±0.0038 | 0.02289 ^{+0.00016} _{−0.00015} |
| Age (Gyr) | > 5 | | | | | | | 13.2 ^{+0.8} _{−2.4} |

Table A14. Parameters of the JKTEBOP best fits of the VLT R -band light curve of OGLE-TR-182 from Pont et al. (2008), using different approaches to LD. For each part of the table the upper quantities are fitted parameters and the lower quantities are derived parameters. T_0 is given as HJD – 2454000.0. The light curve contains 480 datapoints.

| | Linear LD law | Quadratic LD law | Square-root LD law | Logarithmic LD law | Cubic LD law |
|---|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| All LD coefficients fixed | | | | | |
| $r_A + r_b$ | 0.1443 ± 0.0088 | 0.1364 ± 0.0102 | 0.1422 ± 0.0093 | 0.1425 ± 0.0091 | 0.1449 ± 0.0088 |
| k | 0.0990 ± 0.0019 | 0.0966 ± 0.0021 | 0.0980 ± 0.0020 | 0.0980 ± 0.0018 | 0.0987 ± 0.0016 |
| i (deg.) | 84.90 ± 0.68 | 85.59 ± 0.87 | 85.10 ± 0.75 | 85.05 ± 0.71 | 84.80 ± 0.66 |
| u_A | 0.55 fixed | 0.40 fixed | 0.20 fixed | 0.65 fixed | 0.40 fixed |
| v_A | | 0.25 fixed | 0.55 fixed | 0.26 fixed | 0.10 fixed |
| T_0 | 270.57205 ± 0.00062 | 270.57205 ± 0.00060 | 270.57205 ± 0.00058 | 270.57205 ± 0.00062 | 270.57205 ± 0.00058 |
| r_A | 0.1313 ± 0.0079 | 0.1244 ± 0.0091 | 0.1295 ± 0.0083 | 0.1298 ± 0.0081 | 0.1318 ± 0.0079 |
| r_b | 0.01300 ± 0.00097 | 0.01202 ± 0.00112 | 0.01269 ± 0.00104 | 0.01272 ± 0.00098 | 0.01302 ± 0.00096 |
| σ (mmag) | 1.9923 | 1.9932 | 1.9914 | 1.9880 | 1.9839 |
| Fitting for the linear LD coefficient and fixing the nonlinear LD coefficient | | | | | |
| $r_A + r_b$ | 0.1503 ± 0.0082 | 0.1502 ± 0.0086 | 0.1503 ± 0.0082 | 0.1503 ± 0.0086 | 0.1501 ± 0.0085 |
| k | 0.0990 ± 0.0014 | 0.0983 ± 0.0013 | 0.0985 ± 0.0012 | 0.0984 ± 0.0013 | 0.0987 ± 0.0013 |
| i (deg.) | 84.26 ± 0.63 | 84.28 ± 0.67 | 84.27 ± 0.65 | 84.28 ± 0.67 | 84.29 ± 0.65 |
| u_A | 0.2113 ± 0.1790 | 0.0039 ± 0.1921 | -0.1577 ± 0.1794 | 0.3252 ± 0.1993 | 0.1567 ± 0.1831 |
| v_A | | 0.25 fixed | 0.55 fixed | 0.26 fixed | 0.10 fixed |
| T_0 | 270.57190 ± 0.00058 | 270.57192 ± 0.00057 | 270.57191 ± 0.00058 | 270.57191 ± 0.00058 | 270.57191 ± 0.00059 |
| r_A | 0.1367 ± 0.0074 | 0.1367 ± 0.0077 | 0.1369 ± 0.0075 | 0.1368 ± 0.0079 | 0.1366 ± 0.0077 |
| r_b | 0.01354 ± 0.00078 | 0.01344 ± 0.00081 | 0.01348 ± 0.00077 | 0.01346 ± 0.00081 | 0.01348 ± 0.00080 |
| σ (mmag) | 1.9792 | 1.9785 | 1.9786 | 1.9784 | 1.9788 |

Table A15. Final parameters of the fit to the Pont et al. (2008) light curves of OGLE-TR-182 from the JKTEBOP analysis, compared to those from Pont et al. (2008). Quantities without quoted uncertainties were not given by those authors but have been calculated from other parameters which were.

| | This work | Pont et al. (2008) |
|------------------|---------------------|--------------------|
| $r_A + r_b$ | 0.150 ± 0.016 | 0.1146 |
| k | 0.0985 ± 0.0030 | 0.102 ± 0.004 |
| i ($^\circ$) | 84.3 ± 1.2 | 85.7 ± 0.3 |
| r_A | 0.137 ± 0.014 | 0.1040 |
| r_b | 0.0135 ± 0.0013 | 0.0106 |

Table A16. Derived physical properties of the OGLE-TR-182 system. The upper part of the table contains the individual results from this work; in each case $g_b = 12.1 \pm 2.9 \text{ m s}^{-2}$, $\rho_A = 0.33 \pm 0.10 \rho_\odot$ and $T'_{\text{eq}} = 1550 \pm 81 \text{ K}$. The lower part of the table contains the final results and a comparison to published measurements.

| | This work (Mass-radius) | This work (<i>Claret</i> models) | This work (Y^2 models) | This work (<i>Teramo</i> models) | This work (<i>VRSS</i> models) | This work (<i>DSEP</i> models) |
|----------------------------------|-----------------------------------|--------------------------------------|------------------------------|--------------------------------------|------------------------------------|------------------------------------|
| K_b (km s^{-1}) | 159.01 ± 8.75 | 141.99 ± 0.51 | 142.00 ± 1.18 | 141.09 ± 1.15 | 140.65 ± 1.58 | 141.67 ± 1.02 |
| M_A (M_\odot) | 1.685 ± 0.277 | 1.200 ± 0.010 | 1.200 ± 0.029 | 1.177 ± 0.028 | 1.166 ± 0.039 | 1.192 ± 0.025 |
| R_A (R_\odot) | 1.72 ± 0.27 | 1.54 ± 0.16 | 1.54 ± 0.16 | 1.53 ± 0.16 | 1.52 ± 0.17 | 1.53 ± 0.16 |
| $\log g_A$ (cgs) | 4.192 ± 0.067 | 4.143 ± 0.088 | 4.143 ± 0.089 | 4.140 ± 0.088 | 4.139 ± 0.087 | 4.142 ± 0.089 |
| M_b (M_{Jup}) | 1.33 ± 0.24 | 1.06 ± 0.15 | 1.06 ± 0.15 | 1.05 ± 0.15 | 1.04 ± 0.15 | 1.06 ± 0.15 |
| R_b (R_{Jup}) | 1.65 ± 0.18 | 1.48 ± 0.14 | 1.48 ± 0.14 | 1.47 ± 0.14 | 1.46 ± 0.14 | 1.47 ± 0.14 |
| ρ_b (ρ_{Jup}) | 0.295 ± 0.099 | 0.331 ± 0.109 | 0.331 ± 0.109 | 0.333 ± 0.110 | 0.334 ± 0.110 | 0.331 ± 0.110 |
| Θ | 0.056 ± 0.010 | 0.063 ± 0.011 | 0.063 ± 0.011 | 0.063 ± 0.011 | 0.063 ± 0.011 | 0.063 ± 0.011 |
| a (AU) | 0.05849 ± 0.00322 | 0.05224 ± 0.00015 | 0.05224 ± 0.00042 | 0.05190 ± 0.00041 | 0.05174 ± 0.00057 | 0.05212 ± 0.00036 |
| Age (Gyr) | | $4.6^{+0.4}_{-1.5}$ | $3.0^{+0.4}_{-0.6}$ | $5.7^{+0.2}_{-1.9}$ | $4.5^{+0.1}_{-0.9}$ | $3.5^{+0.5}_{-0.6}$ |
| This work (final) | | Pont et al. (2008) | | | | |
| M_A (M_\odot) | $1.187 \pm 0.039 \pm 0.021$ | 1.14 ± 0.05 | | | | |
| R_A (R_\odot) | $1.53 \pm 0.17 \pm 0.01$ | $1.14^{+0.23}_{-0.06}$ | | | | |
| $\log g_A$ (cgs) | $4.142 \pm 0.089 \pm 0.003$ | 4.47 ± 0.18 | | | | |
| ρ_A (ρ_\odot) | 0.33 ± 0.10 | | | | | |
| M_b (M_{Jup}) | $1.06 \pm 0.15 \pm 0.01$ | 1.01 ± 0.15 | | | | |
| R_b (R_{Jup}) | $1.47 \pm 0.14 \pm 0.01$ | $1.13^{+0.24}_{-0.08}$ | | | | |
| g_b (m s^{-1}) | 12.1 ± 2.9 | | | | | |
| ρ_b (ρ_{Jup}) | $0.332 \pm 0.111 \pm 0.002$ | | | | | |
| T'_{eq} (K) | 1550 ± 81 | | | | | |
| Θ | $0.0628 \pm 0.0109 \pm 0.0004$ | | | | | |
| a (AU) | $0.05205 \pm 0.00057 \pm 0.00031$ | 0.051 ± 0.001 | | | | |
| Age (Gyr) | $4.3^{+0.5+1.4}_{-1.9-1.3}$ | | | | | |

Table A17. Parameters of the JKTEBOP best fits of the VLT V-band light curve of OGLE-TR-211 from Udalski et al. (2008), for three fixed orbital inclination values. T_0 is given as HJD – 2454000.0. The light curve contains 201 datapoints.

| | Linear LD law | Quadratic LD law | Square-root LD law | Logarithmic LD law | Cubic LD law |
|--|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| $i = 86.0^\circ$ (all LD coefficients fixed) | | | | | |
| $r_A + r_b$ | 0.1711 ± 0.0021 | 0.1718 ± 0.0022 | 0.1713 ± 0.0021 | 0.1714 ± 0.0022 | 0.1694 ± 0.0019 |
| k | 0.0811 ± 0.0012 | 0.0808 ± 0.0013 | 0.0811 ± 0.0012 | 0.0810 ± 0.0013 | 0.0823 ± 0.0012 |
| u_A | 0.60 fixed | 0.40 fixed | 0.20 fixed | 0.70 fixed | 0.40 fixed |
| v_A | | 0.30 fixed | 0.60 fixed | 0.20 fixed | 0.10 fixed |
| T_0 | 810.7677 ± 0.0011 | 810.7678 ± 0.0012 | 810.7677 ± 0.0012 | 810.7677 ± 0.0011 | 810.7673 ± 0.0011 |
| r_A | 0.1583 ± 0.0019 | 0.1590 ± 0.0021 | 0.1585 ± 0.0019 | 0.1586 ± 0.0020 | 0.1565 ± 0.0017 |
| r_b | 0.01284 ± 0.00024 | 0.01285 ± 0.00024 | 0.01285 ± 0.00025 | 0.01285 ± 0.00024 | 0.01289 ± 0.00025 |
| σ (mmag) | 1.6421 | 1.6358 | 1.6355 | 1.6368 | 1.6233 |
| $i = 86.0^\circ$ (linear LD coefficient fitted and nonlinear LD coefficient fixed) | | | | | |
| $r_A + r_b$ | 0.1671 ± 0.0018 | 0.1677 ± 0.0021 | 0.1675 ± 0.0020 | 0.1675 ± 0.0020 | 0.1673 ± 0.0020 |
| k | 0.0840 ± 0.0015 | 0.0836 ± 0.0016 | 0.0838 ± 0.0015 | 0.0838 ± 0.0015 | 0.0839 ± 0.0015 |
| u_A | 0.1905 ± 0.1513 | 0.0064 ± 0.1580 | -0.1753 ± 0.1503 | 0.3120 ± 0.1553 | 0.1565 ± 0.1521 |
| v_A | | 0.30 fixed | 0.60 fixed | 0.20 fixed | 0.10 fixed |
| T_0 | 810.76685 ± 0.00095 | 810.76692 ± 0.00093 | 810.76691 ± 0.00096 | 810.76690 ± 0.00094 | 810.76688 ± 0.00088 |
| r_A | 0.1541 ± 0.0018 | 0.1547 ± 0.0020 | 0.1546 ± 0.0019 | 0.1545 ± 0.0019 | 0.1544 ± 0.0019 |
| r_b | 0.01295 ± 0.00024 | 0.01294 ± 0.00023 | 0.01295 ± 0.00023 | 0.01295 ± 0.00023 | 0.01295 ± 0.00023 |
| σ (mmag) | 1.6128 | 1.6133 | 1.6131 | 1.6131 | 1.6130 |
| $i = 88.0^\circ$ (all LD coefficients fixed) | | | | | |
| $r_A + r_b$ | 0.1578 ± 0.0021 | 0.1583 ± 0.0023 | 0.1579 ± 0.0022 | 0.1580 ± 0.0022 | 0.1560 ± 0.0018 |
| k | 0.0793 ± 0.0013 | 0.0794 ± 0.0013 | 0.0795 ± 0.0012 | 0.0795 ± 0.0012 | 0.0811 ± 0.0012 |
| u_A | 0.60 fixed | 0.40 fixed | 0.20 fixed | 0.70 fixed | 0.40 fixed |
| v_A | | 0.30 fixed | 0.60 fixed | 0.20 fixed | 0.10 fixed |
| T_0 | 810.76767 ± 0.00111 | 810.76764 ± 0.00113 | 810.76760 ± 0.00113 | 810.76762 ± 0.00112 | 810.76735 ± 0.00095 |
| r_A | 0.1462 ± 0.0020 | 0.1467 ± 0.0021 | 0.1463 ± 0.0020 | 0.1464 ± 0.0020 | 0.1443 ± 0.0017 |
| r_b | 0.01159 ± 0.00024 | 0.01165 ± 0.00025 | 0.01164 ± 0.00023 | 0.01163 ± 0.00025 | 0.01169 ± 0.00022 |
| σ (mmag) | 1.6472 | 1.6368 | 1.6386 | 1.6398 | 1.6264 |
| $i = 88.0^\circ$ (linear LD coefficient fitted and nonlinear LD coefficient fixed) | | | | | |
| $r_A + r_b$ | 0.1535 ± 0.0020 | 0.1544 ± 0.0021 | 0.1540 ± 0.0021 | 0.1540 ± 0.0020 | 0.1538 ± 0.0020 |
| k | 0.0833 ± 0.0016 | 0.0828 ± 0.0018 | 0.0830 ± 0.0016 | 0.0831 ± 0.0017 | 0.0832 ± 0.0018 |
| u_A | 0.198 ± 0.128 | 0.052 ± 0.135 | -0.153 ± 0.132 | 0.336 ± 0.146 | 0.173 ± 0.145 |
| v_A | | 0.30 fixed | 0.60 fixed | 0.20 fixed | 0.10 fixed |
| T_0 | 810.76704 ± 0.00087 | 810.76711 ± 0.00090 | 810.76708 ± 0.00088 | 810.76708 ± 0.00086 | 810.76710 ± 0.00089 |
| r_A | 0.1417 ± 0.0019 | 0.1426 ± 0.0020 | 0.1422 ± 0.0020 | 0.1422 ± 0.0019 | 0.1420 ± 0.0019 |
| r_b | 0.01180 ± 0.00022 | 0.01181 ± 0.00024 | 0.01181 ± 0.00023 | 0.01181 ± 0.00023 | 0.01180 ± 0.00023 |
| σ (mmag) | 1.6171 | 1.6167 | 1.6168 | 1.6168 | 1.6170 |
| $i = 90.0^\circ$ (all LD coefficients fixed) | | | | | |
| $r_A + r_b$ | 0.1531 ± 0.0022 | 0.1536 ± 0.0022 | 0.1531 ± 0.0021 | 0.1532 ± 0.0021 | 0.1511 ± 0.0019 |
| k | 0.0786 ± 0.0012 | 0.0789 ± 0.0012 | 0.0790 ± 0.0013 | 0.0789 ± 0.0012 | 0.0806 ± 0.0013 |
| u_A | 0.60 fixed | 0.40 fixed | 0.20 fixed | 0.70 fixed | 0.40 fixed |
| v_A | | 0.30 fixed | 0.60 fixed | 0.20 fixed | 0.10 fixed |
| T_0 | 810.76765 ± 0.00106 | 810.76760 ± 0.00113 | 810.76761 ± 0.00104 | 810.76763 ± 0.00109 | 810.76743 ± 0.00093 |
| r_A | 0.1420 ± 0.0020 | 0.1424 ± 0.0020 | 0.1419 ± 0.0020 | 0.1420 ± 0.0019 | 0.1398 ± 0.0017 |
| r_b | 0.01116 ± 0.00024 | 0.01123 ± 0.00025 | 0.01121 ± 0.00024 | 0.01120 ± 0.00023 | 0.01127 ± 0.00023 |
| σ (mmag) | 1.6495 | 1.6372 | 1.6400 | 1.6411 | 1.6277 |
| $i = 90.0^\circ$ (linear LD coefficient fitted and nonlinear LD coefficient fixed) | | | | | |
| $r_A + r_b$ | 0.1473 ± 0.0017 | 0.1481 ± 0.0020 | 0.1479 ± 0.0020 | 0.1479 ± 0.0018 | 0.1477 ± 0.0019 |
| k | 0.0831 ± 0.0019 | 0.0825 ± 0.0019 | 0.0828 ± 0.0018 | 0.0828 ± 0.0018 | 0.0829 ± 0.0018 |
| u_A | 0.183 ± 0.132 | 0.056 ± 0.141 | -0.158 ± 0.138 | 0.332 ± 0.132 | 0.165 ± 0.132 |
| v_A | | 0.30 fixed | 0.60 fixed | 0.20 fixed | 0.10 fixed |
| T_0 | 810.76773 ± 0.00079 | 810.76789 ± 0.00090 | 810.76778 ± 0.00088 | 810.76778 ± 0.00080 | 810.76776 ± 0.00084 |
| r_A | 0.1360 ± 0.0017 | 0.1368 ± 0.0019 | 0.1366 ± 0.0019 | 0.1366 ± 0.0018 | 0.1364 ± 0.0018 |
| r_b | 0.01130 ± 0.00024 | 0.01129 ± 0.00024 | 0.01130 ± 0.00023 | 0.01130 ± 0.00022 | 0.01130 ± 0.00022 |
| σ (mmag) | 1.6182 | 1.6189 | 1.6186 | 1.6186 | 1.6185 |

Table A18. Final parameters of the fit to the Udalski et al. (2008) light curves of OGLE-TR-211 from the JKTEBOP analysis, compared to those from Udalski et al. (2008). Quantities without quoted uncertainties were not given by those authors but have been calculated from other parameters which were.

| | This work $i = 86.0^\circ$ | This work $i = 88.0^\circ$ | This work $i = 90.0^\circ$ | This work (final) | Udalski et al. (2008) |
|--------------|----------------------------|----------------------------|----------------------------|---------------------------------|------------------------------|
| $r_A + r_b$ | 0.1675 ± 0.0028 | 0.1540 ± 0.0025 | 0.1479 ± 0.0026 | $0.1540^{+0.0143}_{-0.0089}$ | 0.163 |
| k | 0.0838 ± 0.0020 | 0.0830 ± 0.0024 | 0.0827 ± 0.0025 | 0.0830 ± 0.0028 | 0.085 ± 0.004 |
| $i (^\circ)$ | 86.0 fixed | 88.0 fixed | 90.0 fixed | 88.0 ± 2.0 | >82.7 |
| r_A | 0.1546 ± 0.0026 | 0.1422 ± 0.0024 | 0.1366 ± 0.0025 | $0.1422^{+0.0150}_{-0.0083}$ | $0.150^{+0.019}_{-0.006}$ |
| r_b | 0.01295 ± 0.00032 | 0.01181 ± 0.00032 | 0.01130 ± 0.00032 | $0.01181^{+0.00146}_{-0.00083}$ | $0.0127^{+0.0017}_{-0.0008}$ |

Table A19. Derived physical properties of the OGLE-TR-211 system. The upper part of the table contains the individual results from this work; in each case $g_b = 11.6^{+2.9}_{-3.3} \text{ m s}^{-2}$, $\rho_A = 0.345^{+0.068}_{-0.090} \rho_\odot$ and $T'_{\text{eq}} = 1686^{+90}_{-55} \text{ K}$. The lower part of the table contains the final results and a comparison to published measurements.

| | This work (Mass-radius) | This work (<i>Claret</i> models) | This work (Y^2 models) | This work (<i>Teramo</i> models) | This work (<i>VRSS</i> models) | This work (<i>DSEP</i> models) |
|---|---------------------------------|--------------------------------------|---------------------------------|--------------------------------------|------------------------------------|------------------------------------|
| $K_b \text{ (km s}^{-1}\text{)}$ | $162.7^{+9.0}_{-5.8}$ | $151.4^{+2.0}_{-1.9}$ | $151.2^{+2.0}_{-2.2}$ | $150.6^{+2.2}_{-1.5}$ | $150.8^{+2.2}_{-1.9}$ | $150.2^{+2.3}_{-2.1}$ |
| $M_A \text{ (M}_\odot\text{)}$ | $1.646^{+0.286}_{-0.171}$ | $1.327^{+0.053}_{-0.049}$ | $1.321^{+0.051}_{-0.056}$ | $1.306^{+0.058}_{-0.039}$ | $1.311^{+0.057}_{-0.048}$ | $1.296^{+0.059}_{-0.054}$ |
| $R_A \text{ (R}_\odot\text{)}$ | $1.683^{+0.276}_{-0.149}$ | $1.566^{+0.179}_{-0.099}$ | $1.564^{+0.178}_{-0.100}$ | $1.558^{+0.174}_{-0.094}$ | $1.560^{+0.177}_{-0.098}$ | $1.554^{+0.178}_{-0.099}$ |
| $\log g_A \text{ (cgs)}$ | $4.202^{+0.040}_{-0.066}$ | $4.171^{+0.051}_{-0.084}$ | $4.170^{+0.051}_{-0.084}$ | $4.169^{+0.052}_{-0.085}$ | $4.169^{+0.051}_{-0.084}$ | $4.168^{+0.051}_{-0.084}$ |
| $M_b \text{ (M}_{\text{Jup}}\text{)}$ | $0.87^{+0.20}_{-0.18}$ | $0.75^{+0.15}_{-0.15}$ | $0.75^{+0.15}_{-0.15}$ | $0.74^{+0.15}_{-0.15}$ | $0.75^{+0.15}_{-0.15}$ | $0.74^{+0.15}_{-0.15}$ |
| $R_b \text{ (R}_{\text{Jup}}\text{)}$ | $1.361^{+0.184}_{-0.107}$ | $1.267^{+0.157}_{-0.090}$ | $1.264^{+0.157}_{-0.091}$ | $1.260^{+0.157}_{-0.089}$ | $1.261^{+0.157}_{-0.090}$ | $1.256^{+0.156}_{-0.090}$ |
| $\rho_b \text{ (}\rho_{\text{Jup}}\text{)}$ | $0.34^{+0.11}_{-0.12}$ | $0.37^{+0.12}_{-0.13}$ | $0.37^{+0.12}_{-0.13}$ | $0.37^{+0.12}_{-0.13}$ | $0.37^{+0.12}_{-0.13}$ | $0.37^{+0.12}_{-0.13}$ |
| Θ | $0.0427^{+0.0091}_{-0.0098}$ | $0.0458^{+0.0096}_{-0.0103}$ | $0.0459^{+0.0096}_{-0.0103}$ | $0.0461^{+0.0097}_{-0.0103}$ | $0.0460^{+0.0097}_{-0.0103}$ | $0.0462^{+0.0097}_{-0.0104}$ |
| $a \text{ (AU)}$ | $0.05506^{+0.00305}_{-0.00195}$ | $0.05125^{+0.00068}_{-0.00064}$ | $0.05116^{+0.00066}_{-0.00073}$ | $0.05097^{+0.00074}_{-0.00051}$ | $0.05103^{+0.00074}_{-0.00063}$ | $0.05084^{+0.00076}_{-0.00071}$ |
| Age (Gyr) | | $2.6^{+0.6}_{-0.6}$ | $2.5^{+0.6}_{-0.6}$ | $2.4^{+0.6}_{-0.6}$ | $2.3^{+0.5}_{-0.5}$ | $3.0^{+0.5}_{-0.7}$ |
| | | | | | | |
| | This work (final) | Udalski et al. (2008) | | | | |
| $M_A \text{ (M}_\odot\text{)}$ | $1.312^{+0.059}_{-0.056}$ | 1.33 ± 0.05 | | | | |
| $R_A \text{ (R}_\odot\text{)}$ | $1.560^{+0.179}_{-0.109}$ | $1.64^{+0.21}_{-0.07}$ | | | | |
| $\log g_A \text{ (cgs)}$ | $4.170^{+0.052}_{-0.085}$ | 4.22 ± 0.17 | | | | |
| $\rho_A \text{ (}\rho_\odot\text{)}$ | $0.345^{+0.068}_{-0.090}$ | | | | | |
| $M_b \text{ (M}_{\text{Jup}}\text{)}$ | $0.747^{+0.148}_{-0.148}$ | 1.03 ± 0.20 | | | | |
| $R_b \text{ (R}_{\text{Jup}}\text{)}$ | $1.262^{+0.158}_{-0.091}$ | $1.36^{+0.18}_{-0.09}$ | | | | |
| $g_b \text{ (m s}^{-1}\text{)}$ | $11.6^{+2.9}_{-3.3}$ | 10.3 | | | | |
| $\rho_b \text{ (}\rho_{\text{Jup}}\text{)}$ | $0.372^{+0.117}_{-0.132}$ | $0.44^{+0.12}_{-0.19}$ | | | | |
| $T'_{\text{eq}} \text{ (K)}$ | 1686^{+90}_{-55} | | | | | |
| Θ | $0.0460^{+0.0097}_{-0.0104}$ | | | | | |
| $a \text{ (AU)}$ | $0.05105^{+0.00076}_{-0.00073}$ | 0.051 ± 0.001 | | | | |
| Age (Gyr) | $2.6^{+0.6}_{-0.7}$ | | | | | |

Table A20. Parameters of the JKTEBOP best fits of the OGLE-TR-L9 *g*-band light curve from Snellen et al. (2009), using different approaches to LD. For each part of the table the upper quantities are fitted parameters and the lower quantities are derived parameters. T_0 is given as HJD $- 2454000.0$. The light curve contains 102 datapoints.

| | Linear LD law | Quadratic LD law | Square-root LD law | Logarithmic LD law | Cubic LD law |
|---|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| Fitting for the linear LD coefficient and perturbing the nonlinear LD coefficient | | | | | |
| $r_A + r_b$ | 0.172 ± 0.016 | 0.173 ± 0.018 | 0.172 ± 0.017 | 0.173 ± 0.017 | 0.172 ± 0.015 |
| k | 0.1040 ± 0.0030 | 0.1030 ± 0.0031 | 0.1033 ± 0.0031 | 0.1032 ± 0.0029 | 0.1036 ± 0.0028 |
| i (deg.) | 83.4 ± 1.3 | 83.4 ± 1.3 | 83.4 ± 1.3 | 83.4 ± 1.3 | 83.4 ± 1.2 |
| u_A | 0.47 ± 0.22 | 0.21 ± 0.29 | 0.07 ± 0.28 | 0.56 ± 0.29 | 0.41 ± 0.27 |
| v_A | | 0.30 perturbed | 0.60 perturbed | 0.25 perturbed | 0.10 perturbed |
| T_0 | 492.79674 ± 0.00057 | 492.79675 ± 0.00057 | 492.79674 ± 0.00060 | 492.79675 ± 0.00057 | 492.79674 ± 0.00057 |
| r_A | 0.156 ± 0.015 | 0.157 ± 0.016 | 0.156 ± 0.015 | 0.157 ± 0.015 | 0.156 ± 0.014 |
| r_b | 0.0162 ± 0.0017 | 0.0161 ± 0.0018 | 0.0161 ± 0.0017 | 0.0162 ± 0.0018 | 0.0161 ± 0.0016 |
| σ (mmag) | 1.6417 | 1.6428 | 1.6427 | 1.6427 | 1.6424 |
| χ^2_{red} | 1.3356 | 1.3373 | 1.3372 | 1.3372 | 1.3366 |
| Fitting for both LD coefficients | | | | | |
| $r_A + r_b$ | 0.172 ± 0.017 | 0.170 ± 0.011 | 0.170 ± 0.010 | 0.170 ± 0.011 | 0.170 ± 0.011 |
| k | 0.1040 ± 0.0029 | 0.1107 ± 0.0111 | 0.1101 ± 0.0083 | 0.1092 ± 0.0099 | 0.1092 ± 0.0097 |
| i (deg.) | 83.44 ± 1.28 | 83.53 ± 0.71 | 83.47 ± 0.68 | 83.50 ± 0.77 | 83.48 ± 0.78 |
| u_A | 0.47 ± 0.24 | 1.59 ± 1.18 | 3.09 ± 2.45 | -0.04 ± 0.68 | 1.03 ± 0.65 |
| v_A | | -1.3 ± 1.5 | -3.8 ± 3.6 | -1.2 ± 1.5 | -0.9 ± 1.1 |
| T_0 | 492.79674 ± 0.00057 | 492.79668 ± 0.00057 | 492.79665 ± 0.00059 | 492.79668 ± 0.00061 | 492.79668 ± 0.00054 |
| r_A | 0.1555 ± 0.0150 | 0.1527 ± 0.0098 | 0.1529 ± 0.0093 | 0.1530 ± 0.0104 | 0.1533 ± 0.0099 |
| r_b | 0.0162 ± 0.0018 | 0.0169 ± 0.0018 | 0.0168 ± 0.0015 | 0.0167 ± 0.0018 | 0.0167 ± 0.0018 |
| σ (mmag) | 1.6417 | 1.6391 | 1.6389 | 1.6391 | 1.6391 |
| χ^2_{red} | 1.3356 | 1.3455 | 1.3453 | 1.3455 | 1.3455 |

Table A21. Parameters of the JKTEBOP best fits of the OGLE-TR-L9 *r*-band light curve from Snellen et al. (2009), using different approaches to LD. For each part of the table the upper quantities are fitted parameters and the lower quantities are derived parameters. T_0 is given as HJD $- 2454000.0$. The light curve contains 103 datapoints.

| | Linear LD law | Quadratic LD law | Square-root LD law | Logarithmic LD law | Cubic LD law |
|---|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| Fitting for the linear LD coefficient and perturbing the nonlinear LD coefficient | | | | | |
| $r_A + r_b$ | 0.1997 ± 0.0098 | 0.2013 ± 0.0106 | 0.2011 ± 0.0101 | 0.2013 ± 0.0096 | 0.2006 ± 0.0103 |
| k | 0.1117 ± 0.0032 | 0.1102 ± 0.0036 | 0.1106 ± 0.0036 | 0.1104 ± 0.0034 | 0.1110 ± 0.0035 |
| i (deg.) | 81.49 ± 0.71 | 81.38 ± 0.80 | 81.40 ± 0.78 | 81.38 ± 0.76 | 81.43 ± 0.79 |
| u_A | 0.31 ± 0.35 | 0.00 ± 0.46 | -0.11 ± 0.44 | 0.35 ± 0.42 | 0.21 ± 0.42 |
| v_A | | 0.30 perturbed | 0.55 perturbed | 0.25 perturbed | 0.10 perturbed |
| T_0 | 492.79761 ± 0.00039 | 492.79760 ± 0.00038 | 492.79761 ± 0.00038 | 492.79761 ± 0.00038 | 492.79760 ± 0.00040 |
| r_A | 0.1797 ± 0.0090 | 0.1813 ± 0.0099 | 0.1811 ± 0.0094 | 0.1813 ± 0.0091 | 0.1806 ± 0.0096 |
| r_b | 0.02006 ± 0.00079 | 0.01998 ± 0.00087 | 0.02004 ± 0.00083 | 0.02002 ± 0.00081 | 0.02004 ± 0.00082 |
| σ (mmag) | 1.0687 | 1.0689 | 1.0690 | 1.0690 | 1.0689 |
| χ^2_{red} | 1.2259 | 1.2265 | 1.2265 | 1.2266 | 1.2262 |
| Fitting for both LD coefficients | | | | | |
| $r_A + r_b$ | 0.1997 ± 0.0092 | 0.1941 ± 0.0118 | 0.1980 ± 0.0125 | 0.1966 ± 0.0113 | 0.2366 ± 0.0114 |
| k | 0.1117 ± 0.0033 | 0.1197 ± 0.0134 | 0.1137 ± 0.0102 | 0.1153 ± 0.0119 | 0.0925 ± 0.0050 |
| i (deg.) | 81.49 ± 0.70 | 81.88 ± 0.81 | 81.60 ± 0.85 | 81.70 ± 0.79 | 79.88 ± 0.73 |
| u_A | 0.31 ± 0.36 | 1.5 ± 1.3 | 1.1 ± 3.2 | 0.1 ± 0.7 | -4.8 ± 4.9 |
| v_A | | -1.2 ± 1.5 | -1.1 ± 4.4 | -0.6 ± 1.9 | 10.2 ± 8.1 |
| T_0 | 492.79761 ± 0.00038 | 492.79759 ± 0.00038 | 492.79760 ± 0.00040 | 492.79761 ± 0.00038 | 492.79750 ± 0.00038 |
| r_A | 0.1797 ± 0.0086 | 0.1733 ± 0.0119 | 0.1778 ± 0.0126 | 0.1763 ± 0.0117 | 0.2165 ± 0.0108 |
| r_b | 0.02006 ± 0.00080 | 0.02074 ± 0.00145 | 0.02021 ± 0.00103 | 0.02032 ± 0.00129 | 0.02002 ± 0.00084 |
| σ (mmag) | 1.0687 | 1.0684 | 1.0683 | 1.0683 | 1.0602 |
| χ^2_{red} | 1.2259 | 1.2370 | 1.2372 | 1.2373 | 1.2185 |

Table A22. Parameters of the JKTEBOP best fits of the OGLE-TR-L9 *i*-band light curve from Snellen et al. (2009), using different approaches to LD. For each part of the table the upper quantities are fitted parameters and the lower quantities are derived parameters. T_0 is given as HJD $- 2454000.0$. The light curve contains 104 datapoints.

| | Linear LD law | Quadratic LD law | Square-root LD law | Logarithmic LD law | Cubic LD law |
|---|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| Fitting for the linear LD coefficient and perturbing the nonlinear LD coefficient | | | | | |
| $r_A + r_b$ | 0.197 ± 0.021 | 0.198 ± 0.022 | 0.198 ± 0.022 | 0.199 ± 0.024 | 0.198 ± 0.022 |
| k | 0.1082 ± 0.0055 | 0.1068 ± 0.0057 | 0.1076 ± 0.0062 | 0.1071 ± 0.0058 | 0.1077 ± 0.0061 |
| i (deg.) | 81.9 ± 1.6 | 81.8 ± 1.6 | 81.8 ± 1.7 | 81.8 ± 1.8 | 81.8 ± 1.6 |
| u_A | 0.42 ± 0.52 | 0.10 ± 0.62 | 0.08 ± 0.70 | 0.51 ± 0.58 | 0.34 ± 0.60 |
| v_A | | 0.35 perturbed | 0.50 perturbed | 0.29 perturbed | 0.10 perturbed |
| T_0 | 492.79679 ± 0.00081 | 492.79677 ± 0.00082 | 492.79677 ± 0.00083 | 492.79678 ± 0.00084 | 492.79680 ± 0.00080 |
| r_A | 0.178 ± 0.019 | 0.179 ± 0.020 | 0.178 ± 0.020 | 0.179 ± 0.022 | 0.179 ± 0.021 |
| r_b | 0.0192 ± 0.0019 | 0.0191 ± 0.0019 | 0.0192 ± 0.0021 | 0.0192 ± 0.0022 | 0.0193 ± 0.0020 |
| σ (mmag) | 2.0136 | 2.0142 | 2.0140 | 2.0142 | 2.0140 |
| χ^2_{red} | 1.0384 | 1.0391 | 1.0389 | 1.0391 | 1.0388 |
| Fitting for both LD coefficients | | | | | |
| $r_A + r_b$ | 0.197 ± 0.021 | 0.190 ± 0.017 | 0.182 ± 0.010 | 0.185 ± 0.020 | 0.235 ± 0.021 |
| k | 0.1082 ± 0.0061 | 0.1162 ± 0.0165 | 0.1381 ± 0.0144 | 0.1084 ± 0.0136 | 0.0921 ± 0.0064 |
| i (deg.) | 81.87 ± 1.52 | 82.35 ± 1.13 | 82.65 ± 0.65 | 82.76 ± 1.32 | 80.15 ± 1.39 |
| u_A | 0.42 ± 0.60 | 1.6 ± 1.3 | 6.7 ± 1.3 | 0.5 ± 1.3 | -2.8 ± 3.5 |
| v_A | | -1.3 ± 1.5 | -8.9 ± 1.7 | -0.3 ± 2.5 | 6.8 ± 5.7 |
| T_0 | 492.79679 ± 0.00082 | 492.79689 ± 0.00089 | 492.79645 ± 0.00080 | 492.79672 ± 0.00083 | 492.79678 ± 0.00082 |
| r_A | 0.178 ± 0.020 | 0.170 ± 0.017 | 0.160 ± 0.010 | 0.167 ± 0.020 | 0.215 ± 0.020 |
| r_b | 0.0192 ± 0.0019 | 0.0198 ± 0.0025 | 0.0221 ± 0.0016 | 0.0181 ± 0.0025 | 0.0198 ± 0.0018 |
| σ (mmag) | 2.0136 | 2.0122 | 1.9843 | 2.0149 | 2.0062 |
| χ^2_{red} | 1.0384 | 1.0469 | 1.0159 | 1.0491 | 1.0421 |

Table A23. Parameters of the JKTEBOP best fits of the OGLE-TR-L9 *z*-band light curve from Snellen et al. (2009), using different approaches to LD. For each part of the table the upper quantities are fitted parameters and the lower quantities are derived parameters. T_0 is given as HJD $- 2454000.0$. The light curve contains 104 datapoints.

| | Linear LD law | Quadratic LD law | Square-root LD law | Logarithmic LD law | Cubic LD law |
|---|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| All LD coefficients fixed | | | | | |
| $r_A + r_b$ | 0.185 ± 0.014 | 0.185 ± 0.014 | 0.185 ± 0.016 | 0.186 ± 0.014 | 0.186 ± 0.015 |
| k | 0.1097 ± 0.0027 | 0.1084 ± 0.0027 | 0.1095 ± 0.0031 | 0.1085 ± 0.0027 | 0.1089 ± 0.0026 |
| i (deg.) | 82.60 ± 0.94 | 82.64 ± 0.96 | 82.67 ± 1.09 | 82.57 ± 0.94 | 82.53 ± 1.00 |
| u_A | 0.42 fixed | 0.15 fixed | 0.20 fixed | 0.51 fixed | 0.30 fixed |
| v_A | | 0.35 fixed | 0.45 fixed | 0.28 fixed | 0.10 fixed |
| T_0 | 492.79685 ± 0.00073 | 492.79691 ± 0.00067 | 492.79692 ± 0.00072 | 492.79686 ± 0.00069 | 492.79682 ± 0.00066 |
| r_A | 0.167 ± 0.013 | 0.167 ± 0.013 | 0.167 ± 0.014 | 0.167 ± 0.013 | 0.168 ± 0.013 |
| r_b | 0.0183 ± 0.0017 | 0.0181 ± 0.0017 | 0.0183 ± 0.0020 | 0.0182 ± 0.0017 | 0.0182 ± 0.0018 |
| σ (mmag) | 1.9115 | 1.9145 | 1.9228 | 1.9086 | 1.9052 |
| χ^2_{red} | 1.0392 | 1.0426 | 1.0517 | 1.0360 | 1.0323 |
| Fitting for the linear LD coefficient and fixing the nonlinear LD coefficient | | | | | |
| $r_A + r_b$ | 0.206 ± 0.017 | 0.207 ± 0.017 | 0.206 ± 0.017 | 0.208 ± 0.016 | 0.208 ± 0.016 |
| k | 0.099 ± 0.010 | 0.098 ± 0.010 | 0.098 ± 0.011 | 0.097 ± 0.010 | 0.097 ± 0.011 |
| i (deg.) | 80.8 ± 1.3 | 80.7 ± 1.2 | 80.8 ± 1.3 | 80.6 ± 1.2 | 80.7 ± 1.2 |
| u_A | -1.3 ± 5.2 | -1.9 ± 6.0 | -1.7 ± 7.0 | -1.7 ± 7.2 | -1.7 ± 7.9 |
| v_A | | 0.35 fixed | 0.45 fixed | 0.28 fixed | 0.10 fixed |
| T_0 | 492.79681 ± 0.00071 | 492.79681 ± 0.00063 | 492.79680 ± 0.00070 | 492.79681 ± 0.00067 | 492.79681 ± 0.00064 |
| r_A | 0.187 ± 0.017 | 0.189 ± 0.017 | 0.188 ± 0.017 | 0.190 ± 0.016 | 0.189 ± 0.016 |
| r_b | 0.0185 ± 0.0011 | 0.0184 ± 0.0011 | 0.0185 ± 0.0011 | 0.0183 ± 0.0011 | 0.0184 ± 0.0011 |
| σ (mmag) | 1.8652 | 1.8652 | 1.8654 | 1.8644 | 1.8644 |
| χ^2_{red} | 0.9986 | 0.9986 | 0.9987 | 0.9976 | 0.9976 |

Table A24. Final parameters of the fit to the Snellen et al. (2009) *griz* light curves of OGLE-TR-L9 from the JKTEBOP analysis, compared to those found by Snellen et al. (2009).

| | This work (<i>g</i>) | This work (<i>r</i>) | This work (<i>i</i>) | This work (<i>z</i>) | This work (final) | Snellen et al. (2009) |
|------------------|------------------------|------------------------|------------------------|------------------------|--------------------------|-----------------------|
| $r_A + r_b$ | 0.172 ± 0.023 | 0.201 ± 0.013 | 0.198 ± 0.029 | 0.185 ± 0.019 | 0.1923 ± 0.0092 | 0.2561 |
| k | 0.1033 ± 0.0040 | 0.1105 ± 0.0047 | 0.1072 ± 0.0070 | 0.1088 ± 0.0035 | 0.1074 ± 0.0022 | 0.10847 ± 0.00098 |
| i ($^\circ$) | 83.4 ± 1.7 | 81.4 ± 1.0 | 81.8 ± 2.1 | 82.6 ± 1.4 | 82.07 ± 0.69 | 79.8 ± 0.3 |
| r_A | 0.156 ± 0.020 | 0.181 ± 0.012 | 0.179 ± 0.026 | 0.167 ± 0.017 | 0.1731 ± 0.0083 | 0.2311 |
| r_b | 0.0161 ± 0.0023 | 0.0200 ± 0.0011 | 0.0192 ± 0.0026 | 0.0182 ± 0.0022 | 0.01910 ± 0.00085 | 0.02498 |

Table A25. Derived physical properties of the OGLE-TR-L9 system. The upper part of the table contains the individual results from this work; in each case $g_b = 41 \pm 14 \text{ m s}^{-2}$, $\rho_A = 0.418 \pm 0.061 \rho_\odot$ and $T'_{\text{eq}} = 2039 \pm 51 \text{ K}$. The lower part of the table contains the final results and a comparison to published measurements.

| | This work (Mass-radius) | This work (<i>Claret</i> models) | This work (Y^2 models) | This work (<i>Teramo</i> models) | This work (<i>VRSS</i> models) | This work (<i>DSEP</i> models) |
|----------------------------------|--------------------------------------|--------------------------------------|------------------------------|--------------------------------------|------------------------------------|------------------------------------|
| K_b (km s^{-1}) | 177.7 ± 5.6 | 175.3 ± 3.3 | 175.3 ± 4.0 | 174.1 ± 4.6 | 174.7 ± 2.5 | 173.6 ± 4.6 |
| M_A (M_\odot) | 1.495 ± 0.141 | 1.437 ± 0.081 | 1.435 ± 0.097 | 1.407 ± 0.111 | 1.422 ± 0.060 | 1.395 ± 0.110 |
| R_A (R_\odot) | 1.529 ± 0.114 | 1.509 ± 0.079 | 1.509 ± 0.081 | 1.499 ± 0.083 | 1.504 ± 0.077 | 1.494 ± 0.083 |
| $\log g_A$ (cgs) | 4.244 ± 0.032 | 4.238 ± 0.042 | 4.238 ± 0.043 | 4.235 ± 0.043 | 4.236 ± 0.042 | 4.234 ± 0.043 |
| M_b (M_{Jup}) | 4.5 ± 1.5 | 4.4 ± 1.5 | 4.4 ± 1.5 | 4.3 ± 1.5 | 4.3 ± 1.5 | 4.3 ± 1.5 |
| R_b (R_{Jup}) | 1.643 ± 0.089 | 1.621 ± 0.078 | 1.620 ± 0.081 | 1.610 ± 0.083 | 1.615 ± 0.077 | 1.605 ± 0.083 |
| ρ_b (ρ_{Jup}) | 1.01 ± 0.37 | 1.03 ± 0.37 | 1.03 ± 0.37 | 1.03 ± 0.37 | 1.03 ± 0.37 | 1.04 ± 0.37 |
| Θ | 0.150 ± 0.051 | 0.152 ± 0.051 | 0.152 ± 0.051 | 0.153 ± 0.052 | 0.153 ± 0.052 | 0.154 ± 0.052 |
| a (AU) | 0.04110 ± 0.00129 | 0.04056 ± 0.00076 | 0.04054 ± 0.00092 | 0.04028 ± 0.00105 | 0.04042 ± 0.00056 | 0.04017 ± 0.00106 |
| Age (Gyr) | | $1.0^{+0.6}_{-0.4}$ | $0.9^{+0.6}_{-0.6}$ | $0.9^{+0.6}_{-0.4}$ | $0.8^{+0.6}_{-0.5}$ | $1.3^{+0.6}_{-0.7}$ |
| | This work (final) | Snellen et al. (2009) | | | | |
| M_A (M_\odot) | $1.419 \pm 0.111 \pm 0.024$ | 1.52 ± 0.08 | | | | |
| R_A (R_\odot) | $1.503 \pm 0.083 \pm 0.009$ | 1.53 ± 0.04 | | | | |
| $\log g_A$ (cgs) | $4.236 \pm 0.043 \pm 0.003$ | 4.47 ± 0.13 | | | | |
| ρ_A (ρ_\odot) | 0.418 ± 0.061 | 0.4260 ± 0.0091 | | | | |
| M_b (M_{Jup}) | $4.34 \pm 1.47 \pm 0.05$ | 4.5 ± 1.5 | | | | |
| R_b (R_{Jup}) | $1.615 \pm 0.083 \pm 0.009$ | 1.61 ± 0.04 | | | | |
| g_b (m s^{-1}) | 41 ± 14 | | | | | |
| ρ_b (ρ_{Jup}) | $1.032 \pm 0.374 \pm 0.006$ | 1.16 ± 0.40 | | | | |
| T'_{eq} (K) | 2039 ± 51 | | | | | |
| Θ | $0.1529 \pm 0.0520 \pm 0.0009$ | | | | | |
| a (AU) | $0.0404 \pm 0.0011 \pm 0.0002$ | 0.0308 ± 0.0005 | | | | |
| Age (Gyr) | $1.0^{+0.6}_{-0.7} {}^{+0.3}_{-0.2}$ | < 0.66 | | | | |

Table A26. Parameters of the JKTEBOP best fits of the TrES-2 z -band light curve from Holman et al. (2007b), with the imposition of a third light value of $L_3 = 0.0408 \pm 0.0004$. For each part of the table the upper quantities are fitted parameters and the lower quantities are derived parameters. T_0 is given as HJD - 2453000.0. The light curve contains 1033 datapoints.

| | Linear LD law | Quadratic LD law | Square-root LD law | Logarithmic LD law | Cubic LD law |
|---|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| Fitting for the linear LD coefficient and perturbing the nonlinear LD coefficient | | | | | |
| $r_A + r_b$ | 0.1441 ± 0.0034 | 0.1451 ± 0.0033 | 0.1448 ± 0.0034 | 0.1450 ± 0.0033 | 0.1444 ± 0.0034 |
| k | 0.1306 ± 0.0024 | 0.1287 ± 0.0026 | 0.1294 ± 0.0023 | 0.1290 ± 0.0025 | 0.1298 ± 0.0025 |
| i (deg.) | 83.85 ± 0.30 | 83.78 ± 0.32 | 83.81 ± 0.29 | 83.79 ± 0.32 | 83.83 ± 0.32 |
| u_A | 0.60 ± 0.22 | 0.31 ± 0.28 | 0.21 ± 0.23 | 0.70 ± 0.27 | 0.54 ± 0.25 |
| v_A | | 0.32 perturbed | 0.56 perturbed | 0.27 perturbed | 0.10 perturbed |
| T_0 | 994.69413 ± 0.00013 | 994.69413 ± 0.00013 | 994.69413 ± 0.00013 | 994.69413 ± 0.00014 | 994.69413 ± 0.00014 |
| r_A | 0.1274 ± 0.0031 | 0.1286 ± 0.0031 | 0.1282 ± 0.0030 | 0.1284 ± 0.0030 | 0.1278 ± 0.0031 |
| r_b | 0.01664 ± 0.00038 | 0.01655 ± 0.00038 | 0.01659 ± 0.00038 | 0.01657 ± 0.00036 | 0.01660 ± 0.00038 |
| σ (mmag) | 1.4938 | 1.4939 | 1.4939 | 1.4939 | 1.4939 |
| χ^2_{red} | 1.0047 | 1.0047 | 1.0048 | 1.0048 | 1.0047 |
| Fitting for both LD coefficients | | | | | |
| $r_A + r_b$ | 0.1441 ± 0.0032 | 0.1387 ± 0.0047 | 0.1441 ± 0.0047 | 0.1369 ± 0.0048 | 0.1372 ± 0.0049 |
| k | 0.1306 ± 0.0023 | 0.1394 ± 0.0077 | 0.1305 ± 0.0047 | 0.1426 ± 0.0074 | 0.1414 ± 0.0080 |
| i (deg.) | 83.85 ± 0.29 | 84.21 ± 0.34 | 83.85 ± 0.37 | 84.30 ± 0.33 | 84.30 ± 0.33 |
| u_A | 0.60 ± 0.22 | 1.61 ± 0.61 | 0.58 ± 1.13 | 0.10 ± 0.26 | 1.36 ± 0.40 |
| v_A | | -1.10 ± 0.73 | 0.03 ± 1.74 | -1.49 ± 0.71 | -1.04 ± 0.60 |
| T_0 | 994.69413 ± 0.00014 | 994.69413 ± 0.00014 | 994.69413 ± 0.00014 | 994.69413 ± 0.00013 | 994.69413 ± 0.00014 |
| r_A | 0.1274 ± 0.0030 | 0.1218 ± 0.0047 | 0.1275 ± 0.0045 | 0.1198 ± 0.0047 | 0.1202 ± 0.0049 |
| r_b | 0.01664 ± 0.00035 | 0.01698 ± 0.00049 | 0.01663 ± 0.00041 | 0.01709 ± 0.00043 | 0.01699 ± 0.00045 |
| σ (mmag) | 1.4938 | 1.4938 | 1.4939 | 1.4936 | 1.4938 |
| χ^2_{red} | 1.0047 | 1.0055 | 1.0056 | 1.0052 | 1.0053 |

Table A27. Parameters of the JKTEBOP analysis of the Holman et al. (2007b) z -band light curve of TrES-2 with allowance for third light. These are compared to literature studies, which (with the exception of Daemgen et al. 2009) did not account for L_3 . Quantities without quoted uncertainties were not given by those authors but have been calculated from other parameters which were.

| | This work (final) | Paper I | O'Donovan et al. (2006) | Holman et al. (2007b) | TWH08 | Daemgen et al. (2009) | Scuderi et al. (2009) | Rabus et al. (2009) |
|------------------|-----------------------|-----------------------|----------------------------|--------------------------|---------------------|--------------------------|--------------------------|------------------------|
| $r_A + r_b$ | 0.1448 ± 0.0038 | 0.1460 ± 0.0042 | 0.1429 | 0.1475 | 0.1476 | 0.1474 | | 0.1462 |
| k | 0.1293 ± 0.0029 | 0.1268 ± 0.0032 | 0.1273 | 0.1253 ± 0.0010 | 0.1253 ± 0.0010 | 0.1279 ± 0.0010 | | 0.1260 |
| i ($^\circ$) | 83.80 ± 0.36 | 83.71 ± 0.42 | 83.90 ± 0.22 | 83.57 ± 0.14 | 83.57 ± 0.14 | 83.62 ± 0.14 | 83.92 ± 0.05 | 83.70 |
| r_A | 0.1282 ± 0.0035 | 0.1296 ± 0.0038 | 0.1267 | 0.1311 ± 0.0021 | 0.1312 ± 0.0019 | 0.1307 ± 0.0020 | | 0.1298 |
| r_b | 0.01658 ± 0.00043 | 0.01643 ± 0.00046 | 0.01614 | 0.0164 ± 0.0004 | 0.01644 | 0.01672 | | 0.01635 |

Table A28. Derived physical properties of the TrES-2 system. The upper part of the table contains the individual results from this work; in each case $g_b = 19.5 \pm 1.1 \text{ m s}^{-2}$, $\rho_A = 1.043 \pm 0.088 \rho_\odot$ and $T'_{\text{eq}} = 1467 \pm 27 \text{ K}$. The lower part of the table contains the final results and a comparison to published measurements; note that only the current work and that of Daemgen et al. (2009) account for the third light contaminating the light curve.

| | This work (Mass-radius) | This work (<i>Claret</i> models) | This work (<i>Y</i> ² models) | This work (<i>Teramo</i> models) | This work (<i>VRSS</i> models) | This work (<i>DSEP</i> models) |
|------------------------------------|----------------------------|--------------------------------------|--|--------------------------------------|-------------------------------------|-------------------------------------|
| $K_{\rm b}$ (km s ^{−1}) | 153.4 ± 4.3 | 160.5 ± 2.4 | 159.4 ± 1.9 | 158.3 ± 2.8 | 158.6 ± 2.6 | 158.1 ± 2.2 |
| $M_{\rm A}$ (M _⊙) | 0.943 ± 0.080 | 1.079 ± 0.047 | 1.057 ± 0.038 | 1.035 ± 0.054 | 1.042 ± 0.051 | 1.032 ± 0.042 |
| $R_{\rm A}$ (R _⊙) | 0.967 ± 0.047 | 1.011 ± 0.028 | 1.004 ± 0.029 | 0.997 ± 0.029 | 1.000 ± 0.028 | 0.996 ± 0.029 |
| log $g_{\rm A}$ (cgs) | 4.442 ± 0.021 | 4.461 ± 0.027 | 4.458 ± 0.026 | 4.455 ± 0.027 | 4.456 ± 0.027 | 4.455 ± 0.026 |
| $M_{\rm b}$ (M _{Jup}) | 1.167 ± 0.068 | 1.277 ± 0.042 | 1.259 ± 0.035 | 1.242 ± 0.047 | 1.248 ± 0.045 | 1.239 ± 0.038 |
| $R_{\rm b}$ (R _{Jup}) | 1.217 ± 0.047 | 1.273 ± 0.038 | 1.264 ± 0.036 | 1.256 ± 0.039 | 1.259 ± 0.039 | 1.254 ± 0.037 |
| $\rho_{\rm b}$ (ρ _{Jup}) | 0.647 ± 0.054 | 0.619 ± 0.050 | 0.623 ± 0.050 | 0.627 ± 0.051 | 0.626 ± 0.051 | 0.628 ± 0.051 |
| Θ | 0.0713 ± 0.0029 | 0.0681 ± 0.0023 | 0.0686 ± 0.0022 | 0.0691 ± 0.0024 | 0.0689 ± 0.0023 | 0.0692 ± 0.0023 |
| a (AU) | 0.03508 ± 0.00099 | 0.03670 ± 0.00054 | 0.03644 ± 0.00044 | 0.03619 ± 0.00063 | 0.03628 ± 0.00060 | 0.03615 ± 0.00049 |
| Age (Gyr) | | 1.7 ^{+2.1} _{−2.2} | 2.2 ^{+1.5} _{−1.6} | 3.2 ^{+2.8} _{−2.5} | 2.4 ^{+2.8} _{−2.2} | 3.1 ^{+1.7} _{−1.7} |

| | This work (final) | O’Donovan et al. (2006) | Holman et al. (2007b) | Sozzetti et al. (2007) | TWH08 | Winn et al. (2008b) | Paper II | Daemgen et al. (2009) |
|------------------------------------|---|--|--------------------------|---|---|---|-------------------------------------|--------------------------|
| $M_{\rm A}$ (M _⊙) | 1.049 ± 0.054 ± 0.030 | 1.08 ^{+0.11} _{−0.05} | | 0.980 ± 0.062 | 0.983 ^{+0.059} _{−0.063} | 0.980 ± 0.062 | 0.991 ± 0.075 | 0.983 ± 0.061 |
| $R_{\rm A}$ (R _⊙) | 1.002 ± 0.029 ± 0.010 | 1.00 ^{+0.06} _{−0.04} | 1.003 ± 0.027 | 1.000 ^{+0.036} _{−0.033} | 1.003 ^{+0.033} _{−0.033} | 1.000 ^{+0.036} _{−0.033} | 0.994 ± 0.040 | 0.999 ± 0.033 |
| log $g_{\rm A}$ (cgs) | 4.457 ± 0.027 ± 0.004 | | | 4.429 ^{+0.021} _{−0.023} | 4.427 ^{+0.019} _{−0.021} | | 4.440 ± 0.032 | |
| $\rho_{\rm A}$ (ρ _⊙) | 1.043 ± 0.088 | | | 0.976 ± 0.046 | 0.974 ^{+0.043} _{−0.042} | | 1.010 ± 0.092 | 0.987 ± 0.043 |
| $M_{\rm b}$ (M _{Jup}) | 1.253 ± 0.047 ± 0.024 | 1.28 ^{+0.09} _{−0.04} | 1.198 ± 0.053 | | 1.200 ^{+0.051} _{−0.053} | 1.198 ± 0.053 | 1.206 ± 0.065 | 1.199 ± 0.052 |
| $R_{\rm b}$ (R _{Jup}) | 1.261 ± 0.039 ± 0.012 | 1.24 ^{+0.09} _{−0.06} | 1.222 ± 0.038 | | 1.224 ^{+0.041} _{−0.041} | 1.220 ^{+0.045} _{−0.042} | 1.226 ± 0.050 | 1.272 ± 0.041 |
| $g_{\rm b}$ (m s ^{−1}) | 19.5 ± 1.1 | | 19.76 ± 0.91 | | 19.86 ^{+0.75} _{−0.72} | | 19.9 ± 1.2 | 19.2 ± 0.8 |
| $\rho_{\rm b}$ (ρ _{Jup}) | 0.626 ± 0.051 ± 0.006 | 0.67 ^{+0.10} _{−0.07} | | | 0.665 ^{+0.077} _{−0.067} | | 0.654 ± 0.063 | 0.62 ± 0.07 |
| $T'_{\rm eq}$ (K) | 1467 ± 27 | | | | 1498 ⁺¹⁷ _{−17} | | | 1495 ± 17 |
| Θ | 0.0688 ± 0.0024 ± 0.0007 | | | | 0.0709 ^{+0.0022} _{−0.0021} | | | 0.0697 ± 0.0022 |
| a (AU) | 0.03635 ± 0.00063 ± 0.00035 | | | | 0.03558 ^{+0.00070} _{−0.00077} | | 0.03568 ± 0.00092 | 0.03556 ± 0.00075 |
| Age (Gyr) | 2.5 ^{+2.8} _{−2.5} − 0.8 | | | | 5.0 ^{+2.7} _{−2.1} | | 5.3 ^{+2.4} _{−3.4} | |

Table A29. Parameters of the JKTEBOP best fits of the TrES-3 *B*-band light curve from O'Donovan et al. (2007), using different approaches to LD. For each part of the table the upper quantities are fitted parameters and the lower quantities are derived parameters. T_0 is given as HJD - 2454000.0. The light curve contains 126 datapoints.

| | Linear LD law | Quadratic LD law | Square-root LD law | Logarithmic LD law | Cubic LD law |
|---|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|
| Fitting for the linear LD coefficient and perturbing the nonlinear LD coefficient | | | | | |
| $r_A + r_b$ | $0.1883^{+0.0192}_{-0.0094}$ | $0.1889^{+0.0198}_{-0.0091}$ | $0.1887^{+0.0183}_{-0.0085}$ | $0.1890^{+0.0183}_{-0.0090}$ | $0.1883^{+0.0207}_{-0.0081}$ |
| k | $0.1646^{+0.0165}_{-0.0071}$ | $0.1643^{+0.0181}_{-0.0060}$ | $0.1643^{+0.0151}_{-0.0067}$ | $0.1642^{+0.0174}_{-0.0068}$ | $0.1642^{+0.0178}_{-0.0065}$ |
| i (deg.) | $81.81^{+0.83}_{-1.60}$ | $81.77^{+0.88}_{-1.61}$ | $81.78^{+0.81}_{-1.53}$ | $81.76^{+0.83}_{-1.52}$ | $81.81^{+0.74}_{-1.70}$ |
| u_A | $0.32^{+0.47}_{-1.07}$ | $0.22^{+0.53}_{-1.12}$ | $0.14^{+0.49}_{-1.01}$ | $0.35^{+0.52}_{-1.01}$ | $0.29^{+0.48}_{-1.13}$ |
| v_A | | 0.09 perturbed | 0.24 perturbed | 0.12 perturbed | 0.05 perturbed |
| T_0 | $198.97337^{+0.00014}_{-0.00013}$ | $198.97337^{+0.00014}_{-0.00014}$ | $198.97337^{+0.00013}_{-0.00015}$ | $198.97337^{+0.00014}_{-0.00015}$ | $198.97337^{+0.00014}_{-0.00015}$ |
| r_A | $0.1617^{+0.0142}_{-0.0076}$ | $0.1622^{+0.0148}_{-0.0071}$ | $0.1621^{+0.0136}_{-0.0065}$ | $0.1623^{+0.0134}_{-0.0073}$ | $0.1617^{+0.0155}_{-0.0063}$ |
| r_b | $0.0266^{+0.0049}_{-0.0020}$ | $0.0266^{+0.0051}_{-0.0018}$ | $0.0266^{+0.0044}_{-0.0018}$ | $0.0266^{+0.0051}_{-0.0017}$ | $0.0266^{+0.0051}_{-0.0016}$ |
| σ (mmag) | 1.5238 | 1.5238 | 1.5238 | 1.5238 | 1.5238 |
| χ^2_{red} | 1.7104 | 1.7104 | 1.7104 | 1.7104 | 1.7104 |
| Fitting for both LD coefficients | | | | | |
| $r_A + r_b$ | $0.1883^{+0.0193}_{-0.0088}$ | $0.1887^{+0.0123}_{-0.0117}$ | $0.1904^{+0.0185}_{-0.0132}$ | $0.1974^{+0.0095}_{-0.0078}$ | $0.1970^{+0.0115}_{-0.0075}$ |
| k | $0.1646^{+0.0154}_{-0.0067}$ | $0.1635^{+0.0300}_{-0.0140}$ | $0.1627^{+0.0236}_{-0.0105}$ | $0.1568^{+0.0370}_{-0.0137}$ | $0.1577^{+0.0436}_{-0.0126}$ |
| i (deg.) | $81.81^{+0.79}_{-1.58}$ | $81.79^{+0.89}_{-1.04}$ | $81.68^{+0.94}_{-1.57}$ | $81.20^{+0.71}_{-0.86}$ | $81.21^{+0.68}_{-0.81}$ |
| u_A | $0.32^{+0.44}_{-0.99}$ | $0.2^{+1.5}_{-1.5}$ | $-0.7^{+3.8}_{-2.0}$ | $0.9^{+1.6}_{-1.5}$ | $-1.1^{+1.6}_{-1.4}$ |
| v_A | | $0.2^{+2.0}_{-1.7}$ | $1.3^{+3.2}_{-5.3}$ | $2.5^{+3.6}_{-3.4}$ | $1.6^{+2.3}_{-2.8}$ |
| T_0 | $198.97337^{+0.00013}_{-0.00013}$ | $198.97337^{+0.00015}_{-0.00013}$ | $198.97337^{+0.00014}_{-0.00014}$ | $198.97337^{+0.00016}_{-0.00014}$ | $198.97337^{+0.00014}_{-0.00013}$ |
| r_A | $0.1617^{+0.0143}_{-0.0069}$ | $0.1621^{+0.0090}_{-0.0109}$ | $0.1638^{+0.0123}_{-0.0110}$ | $0.1706^{+0.0067}_{-0.0078}$ | $0.1702^{+0.0079}_{-0.0076}$ |
| r_b | $0.0266^{+0.0047}_{-0.0017}$ | $0.0265^{+0.0064}_{-0.0015}$ | $0.0266^{+0.0063}_{-0.0016}$ | $0.0268^{+0.0067}_{-0.0020}$ | $0.0268^{+0.0072}_{-0.0022}$ |
| σ (mmag) | 1.5238 | 1.5238 | 1.5238 | 1.5238 | 1.5238 |
| χ^2_{red} | 1.7104 | 1.7247 | 1.7247 | 1.7247 | 1.7246 |

Table A30. Parameters of the JKTEBOP best fits of the TrES-3 *z*-band light curve from O'Donovan et al. (2007), using different approaches to LD. For each part of the table the upper quantities are fitted parameters and the lower quantities are derived parameters. T_0 is given as HJD - 2454000.0. The light curve contains 134 datapoints.

| | Linear LD law | Quadratic LD law | Square-root LD law | Logarithmic LD law | Cubic LD law |
|---|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|
| Fitting for the linear LD coefficient and perturbing the nonlinear LD coefficient | | | | | |
| $r_A + r_b$ | $0.1945^{+0.0086}_{-0.0061}$ | $0.1961^{+0.0102}_{-0.0056}$ | $0.1957^{+0.0103}_{-0.0059}$ | $0.1960^{+0.0093}_{-0.0056}$ | $0.1952^{+0.0094}_{-0.0057}$ |
| k | $0.1684^{+0.0039}_{-0.0062}$ | $0.1667^{+0.0042}_{-0.0054}$ | $0.1673^{+0.0038}_{-0.0053}$ | $0.1669^{+0.0037}_{-0.0049}$ | $0.1677^{+0.0037}_{-0.0051}$ |
| i (deg.) | $82.39^{+0.49}_{-0.46}$ | $82.29^{+0.43}_{-0.60}$ | $82.33^{+0.49}_{-0.56}$ | $82.31^{+0.41}_{-0.52}$ | $82.35^{+0.45}_{-0.51}$ |
| u_A | $0.83^{+0.38}_{-0.32}$ | $0.58^{+0.38}_{-0.48}$ | $0.48^{+0.38}_{-0.41}$ | $0.95^{+0.37}_{-0.41}$ | $0.78^{+0.35}_{-0.41}$ |
| v_A | | 0.31 perturbed | 0.54 perturbed | 0.27 perturbed | 0.10 perturbed |
| T_0 | $185.91036^{+0.00017}_{-0.00017}$ | $185.91036^{+0.00017}_{-0.00019}$ | $185.91036^{+0.00017}_{-0.00017}$ | $185.91036^{+0.00017}_{-0.00018}$ | $185.91036^{+0.00016}_{-0.00016}$ |
| r_A | $0.1665^{+0.0076}_{-0.0049}$ | $0.1681^{+0.0093}_{-0.0045}$ | $0.1676^{+0.0093}_{-0.0047}$ | $0.1680^{+0.0081}_{-0.0047}$ | $0.1672^{+0.0085}_{-0.0046}$ |
| r_b | $0.0280^{+0.0014}_{-0.0012}$ | $0.0280^{+0.0015}_{-0.0012}$ | $0.0280^{+0.0016}_{-0.0012}$ | $0.0280^{+0.0015}_{-0.0011}$ | $0.0280^{+0.0015}_{-0.0012}$ |
| σ (mmag) | 1.1915 | 1.1921 | 1.1919 | 1.1920 | 1.1918 |
| χ^2_{red} | 0.9445 | 0.9454 | 0.9451 | 0.9454 | 0.9450 |
| Fitting for both LD coefficients | | | | | |
| $r_A + r_b$ | $0.1945^{+0.0093}_{-0.0053}$ | $0.1809^{+0.0091}_{-0.0078}$ | $0.1808^{+0.0071}_{-0.0073}$ | $0.1815^{+0.0085}_{-0.0081}$ | $0.1810^{+0.0093}_{-0.0073}$ |
| k | $0.1684^{+0.0042}_{-0.0056}$ | $0.1853^{+0.0098}_{-0.0131}$ | $0.1835^{+0.0082}_{-0.0084}$ | $0.1833^{+0.0105}_{-0.0124}$ | $0.1831^{+0.0100}_{-0.0111}$ |
| i (deg.) | $82.39^{+0.50}_{-0.52}$ | $83.22^{+0.54}_{-0.54}$ | $83.17^{+0.49}_{-0.43}$ | $83.15^{+0.51}_{-0.52}$ | $83.18^{+0.43}_{-0.57}$ |
| u_A | $0.83^{+0.33}_{-0.40}$ | $2.37^{+0.55}_{-0.69}$ | $4.61^{+1.38}_{-1.37}$ | $-0.05^{+0.52}_{-0.44}$ | $1.71^{+0.35}_{-0.44}$ |
| v_A | | $-1.97^{+0.97}_{-0.72}$ | $-5.62^{+2.00}_{-2.06}$ | $-1.98^{+1.09}_{-0.89}$ | $-1.54^{+0.87}_{-0.61}$ |
| T_0 | $185.91036^{+0.00017}_{-0.00017}$ | $185.91036^{+0.00017}_{-0.00017}$ | $185.91036^{+0.00016}_{-0.00018}$ | $185.91036^{+0.00017}_{-0.00017}$ | $185.91036^{+0.00017}_{-0.00018}$ |
| r_A | $0.1665^{+0.0081}_{-0.0044}$ | $0.1526^{+0.0087}_{-0.0073}$ | $0.1527^{+0.0065}_{-0.0068}$ | $0.1534^{+0.0082}_{-0.0077}$ | $0.1530^{+0.0092}_{-0.0067}$ |
| r_b | $0.02804^{+0.00155}_{-0.00116}$ | $0.02827^{+0.00098}_{-0.00116}$ | $0.02803^{+0.00086}_{-0.00101}$ | $0.02811^{+0.00096}_{-0.00106}$ | $0.02802^{+0.00093}_{-0.00110}$ |
| σ (mmag) | 1.1915 | 1.1851 | 1.1829 | 1.1839 | 1.1837 |
| χ^2_{red} | 0.9445 | 0.9417 | 0.9384 | 0.9400 | 0.9395 |

Table A31. Parameters of the JKTEBOP best fits of the TrES-3 *V*-band light curve from Sozzetti et al. (2009), using different approaches to LD. For each part of the table the upper quantities are fitted parameters and the lower quantities are derived parameters. T_0 is given as HJD – 2454000.0. The light curve contains 139 datapoints.

| | Linear LD law | Quadratic LD law | Square-root LD law | Logarithmic LD law | Cubic LD law |
|---|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|
| All LD coefficients fixed | | | | | |
| $r_A + r_b$ | $0.213^{+0.022}_{-0.013}$ | $0.212^{+0.023}_{-0.012}$ | $0.214^{+0.023}_{-0.012}$ | $0.214^{+0.024}_{-0.013}$ | $0.221^{+0.022}_{-0.017}$ |
| k | $0.200^{+0.082}_{-0.026}$ | $0.195^{+0.080}_{-0.020}$ | $0.199^{+0.093}_{-0.023}$ | $0.199^{+0.088}_{-0.026}$ | $0.220^{+0.093}_{-0.039}$ |
| i (deg.) | $80.77^{+0.91}_{-1.63}$ | $80.85^{+0.78}_{-1.68}$ | $80.72^{+0.85}_{-1.72}$ | $80.70^{+0.95}_{-1.70}$ | $80.09^{+1.19}_{-1.66}$ |
| u_A | 0.67 fixed | 0.52 fixed | 0.35 fixed | 0.75 fixed | 0.50 fixed |
| v_A | | 0.22 fixed | 0.47 fixed | 0.20 fixed | 0.10 fixed |
| T_0 | $214.64637^{+0.00020}_{-0.00021}$ | $214.64637^{+0.00021}_{-0.00022}$ | $214.64637^{+0.00021}_{-0.00021}$ | $214.64637^{+0.00021}_{-0.00020}$ | $214.64637^{+0.00021}_{-0.00021}$ |
| r_A | $0.1775^{+0.0057}_{-0.0073}$ | $0.1777^{+0.0066}_{-0.0072}$ | $0.1784^{+0.0053}_{-0.0072}$ | $0.1785^{+0.0059}_{-0.0075}$ | $0.1816^{+0.0049}_{-0.0076}$ |
| r_b | $0.0354^{+0.0165}_{-0.0058}$ | $0.0346^{+0.0160}_{-0.0046}$ | $0.0355^{+0.0182}_{-0.0052}$ | $0.0355^{+0.0174}_{-0.0060}$ | $0.0399^{+0.0182}_{-0.0086}$ |
| σ (mmag) | 1.6982 | 1.6998 | 1.6986 | 1.6987 | 1.6963 |
| χ^2_{red} | 1.0180 | 1.0199 | 1.0186 | 1.0187 | 1.0158 |
| Fitting for the linear LD coefficient and fixing the nonlinear LD coefficient | | | | | |
| $r_A + r_b$ | $0.2346^{+0.0091}_{-0.0106}$ | $0.2347^{+0.0092}_{-0.0093}$ | $0.2341^{+0.0085}_{-0.0101}$ | $0.2343^{+0.0083}_{-0.0092}$ | $0.2348^{+0.0088}_{-0.0108}$ |
| k | $0.1727^{+0.0073}_{-0.0073}$ | $0.1722^{+0.0110}_{-0.0068}$ | $0.1724^{+0.0095}_{-0.0064}$ | $0.1724^{+0.0092}_{-0.0071}$ | $0.1727^{+0.0091}_{-0.0069}$ |
| i (deg.) | $81.10^{+0.47}_{-0.44}$ | $81.03^{+0.42}_{-0.43}$ | $81.07^{+0.43}_{-0.40}$ | $81.05^{+0.50}_{-0.39}$ | $81.05^{+0.49}_{-0.38}$ |
| u_A | $1.447^{+0.052}_{-0.077}$ | $1.283^{+0.052}_{-0.075}$ | $1.127^{+0.051}_{-0.076}$ | $1.536^{+0.049}_{-0.076}$ | $1.391^{+0.055}_{-0.075}$ |
| v_A | | 0.22 fixed | 0.47 fixed | 0.20 fixed | 0.10 fixed |
| T_0 | $214.64639^{+0.00022}_{-0.00021}$ | $214.64639^{+0.00021}_{-0.00021}$ | $214.64639^{+0.00019}_{-0.00021}$ | $214.64639^{+0.00021}_{-0.00022}$ | $214.64639^{+0.00021}_{-0.00019}$ |
| r_A | $0.2000^{+0.0072}_{-0.0091}$ | $0.2002^{+0.0068}_{-0.0083}$ | $0.1997^{+0.0060}_{-0.0086}$ | $0.1999^{+0.0066}_{-0.0090}$ | $0.2002^{+0.0072}_{-0.0087}$ |
| r_b | $0.0345^{+0.0028}_{-0.0025}$ | $0.0345^{+0.0026}_{-0.0023}$ | $0.0344^{+0.0024}_{-0.0024}$ | $0.0345^{+0.0024}_{-0.0026}$ | $0.0346^{+0.0024}_{-0.0025}$ |
| σ (mmag) | 1.6963 | 1.6948 | 1.6952 | 1.6950 | 1.6953 |
| χ^2_{red} | 1.0235 | 1.0217 | 1.0222 | 1.0219 | 1.0224 |

Table A32. Parameters of the JKTEBOP best fits of the TrES-3 *g*-band light curve from Sozzetti et al. (2009), using different approaches to LD. For each part of the table the upper quantities are fitted parameters and the lower quantities are derived parameters. T_0 is given as HJD – 2454000.0. The light curve contains 208 datapoints.

| | Linear LD law | Quadratic LD law | Square-root LD law | Logarithmic LD law | Cubic LD law |
|---|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|
| Fitting for the linear LD coefficient and perturbing the nonlinear LD coefficient | | | | | |
| $r_A + r_b$ | $0.218^{+0.019}_{-0.016}$ | $0.214^{+0.022}_{-0.014}$ | $0.212^{+0.013}_{-0.012}$ | $0.216^{+0.021}_{-0.016}$ | $0.215^{+0.021}_{-0.015}$ |
| k | $0.2261^{+0.0827}_{-0.0524}$ | $0.2069^{+0.0894}_{-0.0375}$ | $0.1743^{+0.0553}_{-0.0094}$ | $0.2128^{+0.0868}_{-0.0440}$ | $0.2100^{+0.0932}_{-0.0374}$ |
| i (deg.) | $80.35^{+1.44}_{-1.35}$ | $80.74^{+1.14}_{-1.57}$ | $81.65^{+0.51}_{-1.27}$ | $80.61^{+1.30}_{-1.54}$ | $80.68^{+1.16}_{-1.58}$ |
| u_A | $0.83^{+0.27}_{-0.38}$ | $0.74^{+0.22}_{-0.49}$ | $1.04^{+0.14}_{-0.23}$ | $0.93^{+0.23}_{-0.47}$ | $0.82^{+0.19}_{-0.47}$ |
| v_A | | 0.18 perturbed | 0.31 perturbed | 0.14 perturbed | 0.10 perturbed |
| T_0 | $215.95203^{+0.00019}_{-0.00018}$ | $215.95203^{+0.00017}_{-0.00017}$ | $215.95203^{+0.00018}_{-0.00018}$ | $215.95203^{+0.00019}_{-0.00017}$ | $215.95203^{+0.00017}_{-0.00019}$ |
| r_A | $0.1780^{+0.0057}_{-0.0056}$ | $0.1774^{+0.0062}_{-0.0066}$ | $0.1807^{+0.0081}_{-0.0071}$ | $0.1778^{+0.0064}_{-0.0065}$ | $0.1775^{+0.0062}_{-0.0065}$ |
| r_b | $0.0403^{+0.0163}_{-0.0099}$ | $0.0367^{+0.0177}_{-0.0074}$ | $0.0315^{+0.0100}_{-0.0027}$ | $0.0378^{+0.0166}_{-0.0091}$ | $0.0373^{+0.0177}_{-0.0075}$ |
| σ (mmag) | 1.6299 | 1.6301 | 1.6305 | 1.6300 | 1.6300 |
| χ^2_{red} | 1.0162 | 1.0165 | 1.0171 | 1.0163 | 1.0164 |
| Fitting for both LD coefficients | | | | | |
| $r_A + r_b$ | $0.218^{+0.021}_{-0.016}$ | $0.223^{+0.014}_{-0.014}$ | $0.230^{+0.014}_{-0.016}$ | $0.218^{+0.013}_{-0.012}$ | $0.222^{+0.013}_{-0.012}$ |
| k | $0.226^{+0.086}_{-0.051}$ | $0.206^{+0.078}_{-0.041}$ | $0.239^{+0.077}_{-0.064}$ | $0.225^{+0.116}_{-0.043}$ | $0.205^{+0.061}_{-0.037}$ |
| i (deg.) | $80.35^{+1.49}_{-1.45}$ | $80.47^{+0.97}_{-0.93}$ | $79.85^{+1.27}_{-0.97}$ | $80.35^{+1.37}_{-1.01}$ | $80.51^{+0.77}_{-0.79}$ |
| u_A | $0.83^{+0.28}_{-0.41}$ | $0.22^{+0.88}_{-0.75}$ | $-0.64^{+1.26}_{-0.57}$ | $0.86^{+0.61}_{-0.77}$ | $0.63^{+0.65}_{-0.78}$ |
| v_A | | $1.098^{+0.982}_{-1.126}$ | $2.420^{+0.764}_{-1.820}$ | $0.063^{+1.323}_{-1.310}$ | $0.770^{+1.151}_{-1.114}$ |
| T_0 | $215.95203^{+0.00017}_{-0.00018}$ | $215.95203^{+0.00017}_{-0.00019}$ | $215.95202^{+0.00018}_{-0.00017}$ | $215.95203^{+0.00018}_{-0.00018}$ | $215.95203^{+0.00017}_{-0.00019}$ |
| r_A | $0.1780^{+0.0058}_{-0.0059}$ | $0.1846^{+0.0081}_{-0.0078}$ | $0.1853^{+0.0058}_{-0.0058}$ | $0.1783^{+0.0094}_{-0.0133}$ | $0.1844^{+0.0096}_{-0.0106}$ |
| r_b | $0.0403^{+0.0166}_{-0.0098}$ | $0.0380^{+0.0142}_{-0.0083}$ | $0.0443^{+0.0145}_{-0.0129}$ | $0.0401^{+0.0164}_{-0.0091}$ | $0.0378^{+0.0102}_{-0.0073}$ |
| σ (mmag) | 1.6299 | 1.6300 | 1.6292 | 1.6299 | 1.6296 |
| χ^2_{red} | 1.0162 | 1.0214 | 1.0205 | 1.0213 | 1.0209 |

Table A33. Parameters of the JKTEBOP best fits of the TrES-3 r -band light curve from Sozzetti et al. (2009), using different approaches to LD. For each part of the table the upper quantities are fitted parameters and the lower quantities are derived parameters. T_0 is given as HJD – 2454000.0. The light curve contains 291 datapoints.

| | Linear LD law | Quadratic LD law | Square-root LD law | Logarithmic LD law | Cubic LD law |
|---|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|
| All LD coefficients fixed | | | | | |
| $r_A + r_b$ | $0.1899^{+0.0038}_{-0.0035}$ | $0.1911^{+0.0040}_{-0.0036}$ | $0.1931^{+0.0054}_{-0.0034}$ | $0.1914^{+0.0035}_{-0.0035}$ | $0.1929^{+0.0039}_{-0.0037}$ |
| k | $0.1618^{+0.0022}_{-0.0020}$ | $0.1602^{+0.0024}_{-0.0020}$ | $0.1598^{+0.0045}_{-0.0023}$ | $0.1607^{+0.0022}_{-0.0021}$ | $0.1602^{+0.0022}_{-0.0022}$ |
| i (deg.) | $82.27^{+0.20}_{-0.23}$ | $82.19^{+0.22}_{-0.24}$ | $81.90^{+0.21}_{-0.35}$ | $82.17^{+0.21}_{-0.21}$ | $81.96^{+0.21}_{-0.26}$ |
| u_A | 0.65 fixed | 0.41 fixed | 0.28 fixed | 0.72 fixed | 0.40 fixed |
| v_A | | 0.28 fixed | 0.16 fixed | 0.23 fixed | 0.10 fixed |
| T_0 | $552.94895^{+0.00014}_{-0.00013}$ | $552.94895^{+0.00012}_{-0.00013}$ | $552.94895^{+0.00014}_{-0.00014}$ | $552.94895^{+0.00014}_{-0.00013}$ | $552.94895^{+0.00013}_{-0.00014}$ |
| r_A | $0.1635^{+0.0030}_{-0.0029}$ | $0.1647^{+0.0032}_{-0.0028}$ | $0.1665^{+0.0040}_{-0.0028}$ | $0.1649^{+0.0027}_{-0.0029}$ | $0.1663^{+0.0030}_{-0.0030}$ |
| r_b | $0.02645^{+0.00079}_{-0.00070}$ | $0.02639^{+0.00086}_{-0.00075}$ | $0.02661^{+0.00139}_{-0.00071}$ | $0.02649^{+0.00073}_{-0.00072}$ | $0.02663^{+0.00104}_{-0.00074}$ |
| σ (mmag) | 1.4698 | 1.4694 | 1.4627 | 1.4690 | 1.4641 |
| χ^2_{red} | 1.0132 | 1.0127 | 1.0036 | 1.0120 | 1.0055 |
| Fitting for the linear LD coefficient and perturbing the nonlinear LD coefficient | | | | | |
| $r_A + r_b$ | $0.1973^{+0.0176}_{-0.0053}$ | $0.1983^{+0.0184}_{-0.0058}$ | $0.1975^{+0.0169}_{-0.0080}$ | $0.1983^{+0.0170}_{-0.0054}$ | $0.1979^{+0.0190}_{-0.0075}$ |
| k | $0.1568^{+0.0077}_{-0.0071}$ | $0.1553^{+0.0073}_{-0.0066}$ | $0.1565^{+0.0078}_{-0.0073}$ | $0.1556^{+0.0076}_{-0.0072}$ | $0.1561^{+0.0078}_{-0.0071}$ |
| i (deg.) | $81.46^{+1.48}_{-1.48}$ | $81.39^{+1.51}_{-1.51}$ | $81.44^{+1.44}_{-1.44}$ | $81.39^{+1.38}_{-1.38}$ | $81.42^{+1.52}_{-1.52}$ |
| u_A | $-0.04^{+0.58}_{-1.85}$ | $-0.34^{+0.66}_{-2.45}$ | $-0.16^{+0.62}_{-1.95}$ | $0.00^{+0.59}_{-2.03}$ | $-0.14^{+0.63}_{-2.45}$ |
| v_A | | 0.28 perturbed | 0.16 perturbed | 0.23 perturbed | 0.10 perturbed |
| T_0 | $552.94895^{+0.00012}_{-0.00014}$ | $552.94895^{+0.00014}_{-0.00013}$ | $552.94895^{+0.00013}_{-0.00013}$ | $552.94895^{+0.00013}_{-0.00014}$ | $552.94895^{+0.00013}_{-0.00014}$ |
| r_A | $0.1705^{+0.0163}_{-0.0068}$ | $0.1716^{+0.0164}_{-0.0065}$ | $0.1708^{+0.0156}_{-0.0070}$ | $0.1716^{+0.0153}_{-0.0067}$ | $0.1712^{+0.0171}_{-0.0067}$ |
| r_b | $0.0267^{+0.0019}_{-0.0012}$ | $0.0267^{+0.0021}_{-0.0010}$ | $0.0267^{+0.0020}_{-0.0011}$ | $0.0267^{+0.0022}_{-0.0010}$ | $0.0267^{+0.0022}_{-0.0010}$ |
| σ (mmag) | 1.4602 | 1.4601 | 1.4602 | 1.4601 | 1.4601 |
| χ^2_{red} | 1.0039 | 1.0037 | 1.0038 | 1.0037 | 1.0037 |

Table A34. Parameters of the JKTEBOP best fits of the TrES-3 i -band light curve from Sozzetti et al. (2009), using different approaches to LD. For each part of the table the upper quantities are fitted parameters and the lower quantities are derived parameters. T_0 is given as HJD – 2454000.0. The light curve contains 665 datapoints.

| | Linear LD law | Quadratic LD law | Square-root LD law | Logarithmic LD law | Cubic LD law |
|---|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|
| All LD coefficients fixed | | | | | |
| $r_A + r_b$ | $0.1935^{+0.0027}_{-0.0028}$ | $0.1945^{+0.0025}_{-0.0026}$ | $0.1943^{+0.0027}_{-0.0026}$ | $0.1944^{+0.0028}_{-0.0026}$ | $0.1960^{+0.0033}_{-0.0026}$ |
| k | $0.1663^{+0.0019}_{-0.0018}$ | $0.1653^{+0.0018}_{-0.0016}$ | $0.1657^{+0.0020}_{-0.0018}$ | $0.1656^{+0.0019}_{-0.0016}$ | $0.1651^{+0.0031}_{-0.0020}$ |
| i (deg.) | $82.21^{+0.17}_{-0.17}$ | $82.13^{+0.15}_{-0.16}$ | $82.14^{+0.16}_{-0.17}$ | $82.13^{+0.15}_{-0.17}$ | $81.88^{+0.16}_{-0.22}$ |
| u_A | 0.77 fixed | 0.61 fixed | 0.54 fixed | 0.81 fixed | 0.50 fixed |
| v_A | | 0.18 fixed | 0.31 fixed | 0.14 fixed | 0.10 fixed |
| T_0 | $569.928958^{+0.000098}_{-0.000095}$ | $569.928959^{+0.000098}_{-0.000092}$ | $569.928958^{+0.000098}_{-0.000100}$ | $569.928959^{+0.000095}_{-0.000096}$ | $569.928961^{+0.000098}_{-0.000095}$ |
| r_A | $0.1659^{+0.0021}_{-0.0022}$ | $0.1669^{+0.0020}_{-0.0020}$ | $0.1667^{+0.0021}_{-0.0020}$ | $0.1668^{+0.0021}_{-0.0020}$ | $0.1682^{+0.0023}_{-0.0021}$ |
| r_b | $0.02758^{+0.00062}_{-0.00061}$ | $0.02759^{+0.00062}_{-0.00056}$ | $0.02762^{+0.00064}_{-0.00058}$ | $0.02762^{+0.00064}_{-0.00054}$ | $0.02777^{+0.00093}_{-0.00061}$ |
| σ (mmag) | 1.8727 | 1.8726 | 1.8725 | 1.8725 | 1.8696 |
| χ^2_{red} | 1.0408 | 1.0404 | 1.0402 | 1.0402 | 1.0355 |
| Fitting for the linear LD coefficient and perturbing the nonlinear LD coefficient | | | | | |
| $r_A + r_b$ | $0.211^{+0.016}_{-0.013}$ | $0.213^{+0.018}_{-0.013}$ | $0.213^{+0.017}_{-0.013}$ | $0.213^{+0.018}_{-0.013}$ | $0.212^{+0.018}_{-0.013}$ |
| k | $0.1644^{+0.0090}_{-0.0062}$ | $0.1630^{+0.0092}_{-0.0066}$ | $0.1636^{+0.0082}_{-0.0060}$ | $0.1633^{+0.0085}_{-0.0067}$ | $0.1638^{+0.0079}_{-0.0066}$ |
| i (deg.) | $80.4^{+1.1}_{-1.3}$ | $80.3^{+1.1}_{-1.3}$ | $80.3^{+1.1}_{-1.3}$ | $80.3^{+1.1}_{-1.3}$ | $80.4^{+1.1}_{-1.3}$ |
| u_A | $-0.7^{+0.9}_{-2.2}$ | $-1.2^{+1.0}_{-2.8}$ | $-1.2^{+1.0}_{-2.5}$ | $-0.7^{+1.0}_{-2.8}$ | $-0.8^{+1.0}_{-2.7}$ |
| v_A | | 0.30 perturbed | 0.53 perturbed | 0.25 perturbed | 0.10 perturbed |
| T_0 | $569.928969^{+0.000096}_{-0.000091}$ | $569.928969^{+0.000091}_{-0.000098}$ | $569.928969^{+0.000093}_{-0.000086}$ | $569.928969^{+0.000081}_{-0.000103}$ | $569.928969^{+0.000098}_{-0.000086}$ |
| r_A | $0.182^{+0.014}_{-0.011}$ | $0.184^{+0.015}_{-0.011}$ | $0.183^{+0.014}_{-0.012}$ | $0.183^{+0.015}_{-0.011}$ | $0.182^{+0.015}_{-0.011}$ |
| r_b | $0.0299^{+0.0031}_{-0.0019}$ | $0.0299^{+0.0034}_{-0.0020}$ | $0.0299^{+0.0032}_{-0.0020}$ | $0.0299^{+0.0035}_{-0.0020}$ | $0.0299^{+0.0033}_{-0.0019}$ |
| σ (mmag) | 1.8668 | 1.8668 | 1.8668 | 1.8668 | 1.8668 |
| χ^2_{red} | 1.0316 | 1.0316 | 1.0316 | 1.0316 | 1.0316 |

Table A35. Parameters of the JKTEBOP best fits of the TrES-3 LT/RISE light curve from Gibson et al. (2009), using different approaches to LD. For each part of the table the upper quantities are fitted parameters and the lower quantities are derived parameters. The light curve contains 11 350 datapoints, which were phased and then binned by a factor of 20 to make 568 measurements, prior to analysis.

| | Linear LD law | Quadratic LD law | Square-root LD law | Logarithmic LD law | Cubic LD law |
|---|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|
| Fitting for the linear LD coefficient and perturbing the nonlinear LD coefficient | | | | | |
| $r_A + r_b$ | $0.19260^{+0.00108}_{-0.00097}$ | $0.19348^{+0.00118}_{-0.00103}$ | $0.19332^{+0.00101}_{-0.00102}$ | $0.19352^{+0.00109}_{-0.00096}$ | $0.19321^{+0.00122}_{-0.00103}$ |
| k | $0.16547^{+0.00082}_{-0.00083}$ | $0.16440^{+0.00089}_{-0.00091}$ | $0.16470^{+0.00078}_{-0.00084}$ | $0.16451^{+0.00086}_{-0.00081}$ | $0.16482^{+0.00085}_{-0.00086}$ |
| i (deg.) | $82.09^{+0.10}_{-0.12}$ | $82.04^{+0.11}_{-0.11}$ | $82.07^{+0.11}_{-0.12}$ | $82.06^{+0.11}_{-0.11}$ | $82.06^{+0.10}_{-0.12}$ |
| u_A | $0.658^{+0.076}_{-0.081}$ | $0.493^{+0.095}_{-0.102}$ | $0.351^{+0.100}_{-0.103}$ | $0.772^{+0.086}_{-0.094}$ | $0.600^{+0.088}_{-0.101}$ |
| v_A | | 0.20 perturbed | 0.48 perturbed | 0.22 perturbed | 0.10 perturbed |
| r_A | $0.16526^{+0.00092}_{-0.00078}$ | $0.16616^{+0.00101}_{-0.00085}$ | $0.16598^{+0.00082}_{-0.00083}$ | $0.16618^{+0.00090}_{-0.00077}$ | $0.16587^{+0.00102}_{-0.00087}$ |
| r_b | $0.02734^{+0.00024}_{-0.00022}$ | $0.02732^{+0.00024}_{-0.00023}$ | $0.02734^{+0.00022}_{-0.00023}$ | $0.02734^{+0.00021}_{-0.00022}$ | $0.02734^{+0.00025}_{-0.00021}$ |
| σ (mmag) | 0.7259 | 0.7260 | 0.7260 | 0.7260 | 0.7260 |
| χ^2_{red} | 1.9043 | 1.9053 | 1.9050 | 1.9052 | 1.9051 |
| Fitting for both LD coefficients | | | | | |
| $r_A + r_b$ | $0.19260^{+0.00115}_{-0.00090}$ | $0.18815^{+0.00438}_{-0.00347}$ | $0.18533^{+0.00317}_{-0.00221}$ | $0.18570^{+0.00406}_{-0.00291}$ | $0.18593^{+0.00388}_{-0.00318}$ |
| k | $0.16547^{+0.00082}_{-0.00079}$ | $0.17095^{+0.00429}_{-0.00531}$ | $0.17304^{+0.00270}_{-0.00331}$ | $0.17311^{+0.00366}_{-0.00462}$ | $0.17268^{+0.00339}_{-0.00442}$ |
| i (deg.) | $82.09^{+0.09}_{-0.12}$ | $82.36^{+0.23}_{-0.27}$ | $82.50^{+0.14}_{-0.20}$ | $82.49^{+0.19}_{-0.26}$ | $82.48^{+0.20}_{-0.25}$ |
| u_A | $0.658^{+0.076}_{-0.081}$ | $1.36^{+0.42}_{-0.67}$ | $3.04^{+0.63}_{-0.92}$ | $0.16^{+0.25}_{-0.17}$ | $1.22^{+0.25}_{-0.31}$ |
| v_A | | $-0.84^{+0.79}_{-0.49}$ | $-3.48^{+1.28}_{-0.92}$ | $-1.23^{+0.66}_{-0.42}$ | $-0.90^{+0.46}_{-0.35}$ |
| r_A | $0.1653^{+0.0008}_{-0.0007}$ | $0.1607^{+0.0046}_{-0.0036}$ | $0.1580^{+0.0031}_{-0.0022}$ | $0.1583^{+0.0041}_{-0.0030}$ | $0.1586^{+0.0038}_{-0.0032}$ |
| r_b | $0.02734^{+0.00024}_{-0.00020}$ | $0.02747^{+0.00020}_{-0.00024}$ | $0.02734^{+0.00017}_{-0.00016}$ | $0.02740^{+0.00020}_{-0.00020}$ | $0.02738^{+0.00017}_{-0.00016}$ |
| σ (mmag) | 0.7259 | 0.7250 | 0.7244 | 0.7245 | 0.7245 |
| χ^2_{red} | 1.9043 | 1.9018 | 1.8978 | 1.8985 | 1.8986 |

Table A36. Parameters of the JKTEBOP analysis of the seven light curves available for TrES-3, compared to literature studies. Quantities without quoted uncertainties were not given by those authors but have been calculated from other parameters which were.

| | This work (<i>B</i> -band) | This work (<i>z</i> -band) | This work (<i>V</i> -band) | This work (<i>g</i> -band) | This work (<i>r</i> -band) | This work (<i>i</i> -band) | This work (LT/RISE) |
|-------------|---------------------------------|--------------------------------|--------------------------------|--------------------------------|---------------------------------|---------------------------------|---------------------------------|
| $r_A + r_b$ | $0.189^{+0.027}_{-0.012}$ | $0.1958^{+0.0101}_{-0.0058}$ | $0.215^{+0.027}_{-0.017}$ | $0.214^{+0.023}_{-0.020}$ | $0.1921^{+0.0039}_{-0.0055}$ | $0.1948^{+0.0034}_{-0.0055}$ | $0.1934^{+0.0055}_{-0.0026}$ |
| k | $0.164^{+0.030}_{-0.009}$ | $0.1671^{+0.0041}_{-0.0052}$ | $0.203^{+0.107}_{-0.040}$ | $0.201^{+0.095}_{-0.054}$ | $0.1602^{+0.0023}_{-0.0045}$ | $0.1654^{+0.0031}_{-0.0045}$ | $0.1646^{+0.0023}_{-0.0013}$ |
| i (°) | $81.8^{+1.2}_{-2.2}$ | $82.32^{+0.48}_{-0.88}$ | $80.6^{+1.2}_{-2.0}$ | $80.9^{+1.7}_{-1.7}$ | $82.05^{+0.37}_{-0.26}$ | $82.07^{+0.20}_{-0.26}$ | $82.05^{+0.35}_{-0.54}$ |
| r_A | $0.1621^{+0.0203}_{-0.0096}$ | $0.1677^{+0.0094}_{-0.0046}$ | $0.1791^{+0.0068}_{-0.0102}$ | $0.1783^{+0.0082}_{-0.0075}$ | $0.1656^{+0.0031}_{-0.0041}$ | $0.1672^{+0.0026}_{-0.0041}$ | $0.1660^{+0.0044}_{-0.0021}$ |
| r_b | $0.0266^{+0.0069}_{-0.0024}$ | $0.0280^{+0.0015}_{-0.0011}$ | $0.0364^{+0.0205}_{-0.0089}$ | $0.036^{+0.019}_{-0.011}$ | $0.02653^{+0.00075}_{-0.00140}$ | $0.02765^{+0.00095}_{-0.00140}$ | $0.02733^{+0.00113}_{-0.00048}$ |
| | | | | | | | |
| | This work (final) | O'Donovan et al. (2007) | TWH08 | Sozzetti et al. (2009) | Gibson et al. (2009) | | |
| $r_A + r_b$ | $0.1940^{+0.0021}_{-0.0018}$ | 0.1925 | 0.1926 | 0.1978 | | | |
| k | $0.1641^{+0.0020}_{-0.0019}$ | 0.1660 ± 0.0024 | $0.1660^{+0.0024}_{-0.0024}$ | 0.1655 ± 0.0020 | $0.1664^{+0.0011}_{-0.0018}$ | | |
| i (°) | $82.07^{+0.16}_{-0.17}$ | 82.15 ± 0.21 | $82.15^{+0.21}_{-0.21}$ | 81.85 ± 0.16 | $81.73^{+0.13}_{-0.04}$ | | |
| r_A | $0.1666^{+0.0017}_{-0.0015}$ | 0.1651 | $0.1652^{+0.0027}_{-0.0028}$ | 0.1697 ± 0.0016 | | | |
| r_b | $0.02731^{+0.00055}_{-0.00043}$ | 0.02738 | 0.02742 | 0.02809 | | | |

Table A37. Derived physical properties of the TrES-3 system. The upper part of the table contains the individual results from this work; in each case $g_b = 27.8^{+1.2}_{-1.4} \text{ m s}^{-2}$, $\rho_A = 1.699^{+0.047}_{-0.051} \rho_\odot$ and $T'_{\text{eq}} = 1630^{+23}_{-22} \text{ K}$. The lower part of the table contains the final results and a comparison to published measurements.

| | This work (Mass-radius) | This work (Claret models) | This work (Y ² models) | This work (Teramo models) | This work (VRSS models) | This work (DSEP models) |
|----------------------------------|---|---------------------------------|--------------------------------------|---------------------------------|---------------------------------|---------------------------------|
| K_b (km s ⁻¹) | $173.97^{+4.94}_{-5.06}$ | $188.95^{+0.86}_{-0.80}$ | $186.56^{+0.67}_{-0.61}$ | $187.64^{+0.95}_{-1.26}$ | $188.66^{+6.57}_{-0.62}$ | $188.10^{+0.81}_{-2.03}$ |
| M_A (M _⊙) | $0.737^{+0.064}_{-0.063}$ | $0.943^{+0.013}_{-0.012}$ | $0.908^{+0.010}_{-0.009}$ | $0.924^{+0.014}_{-0.018}$ | $0.939^{+0.101}_{-0.009}$ | $0.931^{+0.012}_{-0.030}$ |
| R_A (R _⊙) | $0.757^{+0.024}_{-0.024}$ | $0.822^{+0.011}_{-0.010}$ | $0.812^{+0.011}_{-0.010}$ | $0.816^{+0.011}_{-0.011}$ | $0.822^{+0.032}_{-0.020}$ | $0.818^{+0.010}_{-0.013}$ |
| log g_A (cgs) | $4.547^{+0.013}_{-0.014}$ | $4.583^{+0.007}_{-0.008}$ | $4.578^{+0.007}_{-0.008}$ | $4.580^{+0.007}_{-0.008}$ | $4.583^{+0.016}_{-0.008}$ | $4.581^{+0.007}_{-0.010}$ |
| M_b (M _{Jup}) | $1.636^{+0.106}_{-0.106}$ | $1.930^{+0.060}_{-0.060}$ | $1.881^{+0.058}_{-0.057}$ | $1.903^{+0.060}_{-0.062}$ | $1.924^{+0.148}_{-0.059}$ | $1.912^{+0.059}_{-0.070}$ |
| R_b (R _{Jup}) | $1.208^{+0.042}_{-0.040}$ | $1.312^{+0.027}_{-0.021}$ | $1.295^{+0.026}_{-0.021}$ | $1.302^{+0.027}_{-0.022}$ | $1.309^{+0.053}_{-0.021}$ | $1.306^{+0.027}_{-0.025}$ |
| ρ_b (ρ_{Jup}) | $0.929^{+0.060}_{-0.066}$ | $0.855^{+0.049}_{-0.056}$ | $0.866^{+0.050}_{-0.057}$ | $0.861^{+0.050}_{-0.056}$ | $0.857^{+0.049}_{-0.063}$ | $0.859^{+0.050}_{-0.056}$ |
| Θ | $0.0777^{+0.0035}_{-0.0035}$ | $0.0715^{+0.0024}_{-0.0026}$ | $0.0724^{+0.0025}_{-0.0026}$ | $0.0720^{+0.0025}_{-0.0026}$ | $0.0716^{+0.0024}_{-0.0035}$ | $0.0718^{+0.0026}_{-0.0026}$ |
| a (AU) | $0.02113^{+0.00060}_{-0.00061}$ | $0.02295^{+0.00010}_{-0.00010}$ | $0.02266^{+0.00008}_{-0.00007}$ | $0.02279^{+0.00012}_{-0.00015}$ | $0.02292^{+0.00011}_{-0.00007}$ | $0.02285^{+0.00010}_{-0.00025}$ |
| Age (Gyr) | | $0.0^{+0.0}_{-0.0}$ | $0.0^{+0.0}_{-0.0}$ | $0.0^{+0.4}_{-0.0}$ | $0.0^{+0.0}_{-0.0}$ | $0.0^{+0.7}_{-0.0}$ |
| | This work (final) | O'Donovan et al. (2007) | TWH08 | Sozzetti et al. (2009) | de Mooij & Snellen (2009) | Gibson et al. (2009) |
| M_A (M _⊙) | $0.929^{+0.101+0.014}_{-0.030-0.021}$ | 0.91 ± 0.15 | $0.915^{+0.021}_{-0.031}$ | $0.928^{+0.028}_{-0.048}$ | | |
| R_A (R _⊙) | $0.818^{+0.030+0.004}_{-0.013-0.006}$ | 0.802 ± 0.046 | $0.812^{+0.014}_{-0.025}$ | $0.829^{+0.015}_{-0.022}$ | | |
| log g_A (cgs) | $4.581^{+0.016+0.002}_{-0.010-0.003}$ | 4.6 ± 0.3 | $4.581^{+0.017}_{-0.012}$ | $4.568^{+0.009}_{-0.014}$ | | |
| ρ_A (ρ_\odot) | $1.700^{+0.047}_{-0.051}$ | | $1.754^{+0.085}_{-0.085}$ | 1.636 ± 0.046 | | |
| M_b (M _{Jup}) | $1.910^{+0.148+0.020}_{-0.070-0.029}$ | 1.92 ± 0.23 | $1.938^{+0.062}_{-0.063}$ | $1.910^{+0.075}_{-0.080}$ | | $1.910^{+0.075}_{-0.080}$ |
| R_b (R _{Jup}) | $1.305^{+0.053+0.007}_{-0.025-0.010}$ | 1.295 ± 0.081 | $1.312^{+0.033}_{-0.041}$ | $1.336^{+0.031}_{-0.036}$ | 1.338 ± 0.016 | $1.341^{+0.025}_{-0.035}$ |
| g_b (m s ⁻¹) | $27.8^{+1.2}_{-1.4}$ | | $28.3^{+1.5}_{-1.4}$ | 26.6 ± 1.2 | | $26.3^{+1.4}_{-1.3}$ |
| ρ_b (ρ_{Jup}) | $0.860^{+0.050+0.007}_{-0.063-0.004}$ | | $0.858^{+0.089}_{-0.068}$ | $0.801^{+0.077}_{-0.063}$ | | $0.792^{+0.047}_{-0.042}$ |
| T'_{eq} (K) | 1630^{+23}_{-22} | | 1623^{+26}_{-25} | | | |
| Θ | $0.0719^{+0.0026+0.0005}_{-0.0035-0.0004}$ | | $0.0738^{+0.0026}_{-0.0026}$ | | | |
| a (AU) | $0.02283^{+0.00012+0.00012}_{-0.00025-0.00017}$ | 0.0226 ± 0.0013 | $0.02272^{+0.00017}_{-0.00026}$ | $0.02282^{+0.00023}_{-0.00040}$ | | |
| Age (Gyr) | $0.0^{+0.7+0.0}_{-0.0-0.0}$ | | $0.6^{+2.0}_{-0.4}$ | $0.9^{+2.8}_{-0.8}$ | | |

Table A38. Parameters of the JKTEBOP best fits of the TrES-4 z -band light curve from Mandushev et al. (2007), using different approaches to LD and a third light contribution of $L_3(z) = 0.0199 \pm 0.0005$. For each part of the table the upper quantities are fitted parameters and the lower quantities are derived parameters. T_0 is given as HJD $- 2454000.0$. The light curve contains 948 datapoints.

| | Linear LD law | Quadratic LD law | Square-root LD law | Logarithmic LD law | Cubic LD law |
|---|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| Fitting for the linear LD coefficient and perturbing the nonlinear LD coefficient | | | | | |
| $r_A + r_b$ | 0.2013 ± 0.0071 | 0.2023 ± 0.0070 | 0.2017 ± 0.0073 | 0.2011 ± 0.0074 | 0.2018 ± 0.0072 |
| k | 0.0991 ± 0.0014 | 0.0978 ± 0.0015 | 0.0983 ± 0.0014 | 0.0982 ± 0.0014 | 0.0983 ± 0.0016 |
| i (deg.) | 81.47 ± 0.51 | 81.40 ± 0.51 | 81.44 ± 0.52 | 81.50 ± 0.52 | 81.43 ± 0.53 |
| u_A | 0.12 ± 0.18 | -0.22 ± 0.23 | -0.31 ± 0.20 | 0.21 ± 0.20 | -0.01 ± 0.23 |
| v_A | | 0.33 perturbed | 0.58 perturbed | 0.28 perturbed | 0.15 perturbed |
| P | 3.55509 ± 0.00049 | 3.55505 ± 0.00047 | 3.55502 ± 0.00050 | 3.55510 ± 0.00048 | 3.55503 ± 0.00048 |
| T_0 | 223.79521 ± 0.00084 | 223.79529 ± 0.00081 | 223.79532 ± 0.00081 | 223.79520 ± 0.00080 | 223.79531 ± 0.00080 |
| r_A | 0.1832 ± 0.0065 | 0.1843 ± 0.0065 | 0.1837 ± 0.0067 | 0.1831 ± 0.0068 | 0.1838 ± 0.0067 |
| r_b | 0.01814 ± 0.00056 | 0.01803 ± 0.00055 | 0.01806 ± 0.00060 | 0.01798 ± 0.00058 | 0.01807 ± 0.00054 |
| σ (mmag) | 1.8862 | 1.8862 | 1.8862 | 1.8861 | 1.8862 |
| χ^2_{red} | 1.0946 | 1.0946 | 1.0946 | 1.0945 | 1.0946 |
| Fitting for both LD coefficients | | | | | |
| $r_A + r_b$ | 0.2013 ± 0.0069 | 0.2005 ± 0.0085 | 0.2047 ± 0.0098 | 0.2027 ± 0.0110 | 0.2087 ± 0.0088 |
| k | 0.0991 ± 0.0014 | 0.0901 ± 0.0029 | 0.0898 ± 0.0027 | 0.0897 ± 0.0057 | 0.0868 ± 0.0031 |
| i (deg.) | 81.47 ± 0.51 | 81.65 ± 0.70 | 81.67 ± 0.68 | 81.68 ± 0.73 | 81.38 ± 0.65 |
| u_A | 0.1 ± 0.2 | -4.5 ± 2.5 | -9.7 ± 4.4 | 2.6 ± 1.8 | -3.7 ± 2.1 |
| v_A | | 5.2 ± 2.8 | 14.9 ± 6.2 | 5.7 ± 5.0 | 6.5 ± 3.2 |
| P | 3.55509 ± 0.00050 | 3.55518 ± 0.00049 | 3.55521 ± 0.00050 | 3.55524 ± 0.00047 | 3.55525 ± 0.00048 |
| T_0 | 223.79521 ± 0.00086 | 223.79503 ± 0.00084 | 223.79499 ± 0.00083 | 223.79495 ± 0.00080 | 223.79493 ± 0.00082 |
| r_A | 0.1832 ± 0.0065 | 0.1840 ± 0.0080 | 0.1879 ± 0.0096 | 0.1861 ± 0.0110 | 0.1920 ± 0.0085 |
| r_b | 0.01814 ± 0.00055 | 0.01658 ± 0.00077 | 0.01687 ± 0.00058 | 0.01669 ± 0.00072 | 0.01667 ± 0.00062 |
| σ (mmag) | 1.8862 | 1.8854 | 1.8846 | 1.8850 | 1.8849 |
| χ^2_{red} | 1.0946 | 1.0948 | 1.0940 | 1.0945 | 1.0943 |

Table A39. Parameters of the JKTEBOP best fits of the TrES-4 B -band light curve from Mandushev et al. (2007), using different approaches to LD and a third light contribution of $L_3(B) = 0.0040 \pm 0.0003$. For each part of the table the upper quantities are fitted parameters and the lower quantities are derived parameters. T_0 is given as HJD $- 2454000.0$. The light curve contains 192 datapoints.

| | Linear LD law | Quadratic LD law | Square-root LD law | Logarithmic LD law | Cubic LD law |
|---|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| All LD coefficients fixed | | | | | |
| $r_A + r_b$ | 0.146 ± 0.020 | 0.151 ± 0.020 | 0.150 ± 0.021 | 0.158 ± 0.018 | 0.187 ± 0.013 |
| k | 0.0893 ± 0.0046 | 0.0897 ± 0.0044 | 0.0897 ± 0.0043 | 0.0914 ± 0.0042 | 0.0966 ± 0.0026 |
| i (deg.) | 85.21 ± 1.83 | 84.81 ± 1.72 | 84.91 ± 1.83 | 84.27 ± 1.47 | 82.01 ± 0.84 |
| u_A | 0.73 fixed | 0.60 fixed | 0.44 fixed | 0.81 fixed | 0.50 fixed |
| v_A | | 0.20 fixed | 0.45 fixed | 0.18 fixed | 0.10 fixed |
| T_0 | 230.90286 ± 0.00075 | 230.90295 ± 0.00076 | 230.90293 ± 0.00072 | 230.90312 ± 0.00080 | 230.90349 ± 0.00084 |
| r_A | 0.134 ± 0.018 | 0.139 ± 0.018 | 0.137 ± 0.018 | 0.144 ± 0.016 | 0.171 ± 0.011 |
| r_b | 0.0120 ± 0.0022 | 0.0124 ± 0.0021 | 0.0123 ± 0.0022 | 0.0132 ± 0.0020 | 0.0165 ± 0.0015 |
| σ (mmag) | 1.6779 | 1.6798 | 1.6809 | 1.6826 | 1.6952 |
| χ^2_{red} | 1.0861 | 1.0885 | 1.0900 | 1.0923 | 1.1086 |
| Fitting for the linear LD coefficient and fixing the nonlinear LD coefficient | | | | | |
| $r_A + r_b$ | 0.129 ± 0.023 | 0.132 ± 0.023 | 0.130 ± 0.022 | 0.130 ± 0.023 | 0.128 ± 0.023 |
| k | 0.0801 ± 0.0082 | 0.0787 ± 0.0090 | 0.0783 ± 0.0081 | 0.0784 ± 0.0087 | 0.0780 ± 0.0085 |
| i (deg.) | 87.6 ± 3.0 | 87.4 ± 3.0 | 87.8 ± 2.9 | 87.7 ± 3.0 | 88.0 ± 2.9 |
| u_A | 1.02 ± 0.27 | 0.99 ± 0.30 | 0.82 ± 0.28 | 1.21 ± 0.29 | 1.06 ± 0.28 |
| v_A | | 0.20 fixed | 0.45 fixed | 0.18 fixed | 0.10 fixed |
| T_0 | 230.90264 ± 0.00075 | 230.90270 ± 0.00071 | 230.90265 ± 0.00079 | 230.90267 ± 0.00074 | 230.90266 ± 0.00080 |
| r_A | 0.119 ± 0.020 | 0.123 ± 0.021 | 0.120 ± 0.020 | 0.121 ± 0.021 | 0.119 ± 0.020 |
| r_b | 0.0096 ± 0.0026 | 0.0097 ± 0.0026 | 0.0094 ± 0.0025 | 0.0095 ± 0.0027 | 0.0093 ± 0.0026 |
| σ (mmag) | 1.6673 | 1.6683 | 1.6675 | 1.6677 | 1.6674 |
| χ^2_{red} | 1.0785 | 1.0799 | 1.0788 | 1.0791 | 1.0787 |

Table A40. Final parameters of the fits to the z - and B - band light curves of TrES-4, compared to literature studies. Note that only the current work and that of Daemgen et al. (2009) account for the fainter star contaminating the light of the TrES-4 system.

| | This work (z) | This work (B) | This work (final) | Mandushev et al. (2007) | TWH08 | Sozzetti et al. (2009) | Daemgen et al. (2009) |
|------------------|---------------------|---------------------|---------------------|-------------------------|---------------------------------|------------------------|-----------------------|
| $r_A + r_b$ | 0.2018 ± 0.0102 | 0.168 ± 0.027 | 0.1976 ± 0.0112 | 0.1822 | 0.1822 | 0.1851 | 0.1818 |
| k | 0.0982 ± 0.0044 | 0.0933 ± 0.0058 | 0.0964 ± 0.0035 | 0.09903 ± 0.00088 | $0.09903^{+0.00088}_{-0.00088}$ | 0.09921 ± 0.0085 | 0.1000 ± 0.0009 |
| i ($^\circ$) | 81.44 ± 0.62 | 83.1 ± 2.6 | 81.52 ± 0.60 | 82.81 ± 0.33 | $82.81^{+0.33}_{-0.33}$ | 82.59 ± 0.40 | 82.86 ± 0.33 |
| r_A | 0.1837 ± 0.0089 | 0.154 ± 0.024 | 0.1802 ± 0.0097 | 0.1658 ± 0.0036 | $0.1658^{+0.0035}_{-0.0037}$ | 0.1684 ± 0.0060 | 0.1653 ± 0.0036 |
| r_b | 0.0180 ± 0.0013 | 0.0142 ± 0.0029 | 0.0174 ± 0.0014 | 0.01642 | 0.01642 | 0.01671 | 0.01653 |

Table A41. Derived physical properties of the TrES-4 system. The upper part of the table contains the individual results from this work; in each case $g_b = 6.7 \pm 1.2 \text{ m s}^{-2}$, $\rho_A = 0.182 \pm 0.030 \rho_\odot$ and $T'_{\text{eq}} = 1861 \pm 54 \text{ K}$. The lower part of the table contains the final results and a comparison to published measurements.

| | This work (Mass-radius) | This work (<i>Claret</i> models) | This work (<i>Y</i> ² models) | This work (<i>Teramo</i> models) | This work (<i>VRSS</i> models) | This work (<i>DSEP</i> models) |
|------------------------------------|---|--------------------------------------|---|---|-------------------------------------|-------------------------------------|
| $K_{\rm b}$ (km s ^{−1}) | 181.4 ± 5.9 | 150.9 ± 1.9 | 150.2 ± 1.7 | 150.4 ± 1.9 | 150.3 ± 2.3 | 149.4 ± 2.7 |
| $M_{\rm A}$ (M _⊙) | 2.273 ± 0.222 | 1.310 ± 0.049 | 1.291 ± 0.044 | 1.296 ± 0.047 | 1.294 ± 0.058 | 1.271 ± 0.067 |
| $R_{\rm A}$ (R _⊙) | 2.32 ± 0.19 | 1.93 ± 0.11 | 1.92 ± 0.11 | 1.92 ± 0.11 | 1.92 ± 0.11 | 1.91 ± 0.11 |
| log $g_{\rm A}$ (cgs) | 4.063 ± 0.036 | 3.983 ± 0.045 | 3.981 ± 0.046 | 3.982 ± 0.046 | 3.982 ± 0.047 | 3.979 ± 0.046 |
| $M_{\rm b}$ (M _{Jup}) | 1.279 ± 0.126 | 0.886 ± 0.069 | 0.877 ± 0.068 | 0.879 ± 0.068 | 0.878 ± 0.072 | 0.868 ± 0.071 |
| $R_{\rm b}$ (R _{Jup}) | 2.18 ± 0.19 | 1.82 ± 0.15 | 1.81 ± 0.15 | 1.81 ± 0.15 | 1.81 ± 0.15 | 1.80 ± 0.15 |
| $\rho_{\rm b}$ (ρ _{Jup}) | 0.123 ± 0.032 | 0.148 ± 0.038 | 0.149 ± 0.038 | 0.148 ± 0.038 | 0.148 ± 0.038 | 0.149 ± 0.039 |
| Θ | 0.0309 ± 0.0035 | 0.0371 ± 0.0041 | 0.0373 ± 0.0041 | 0.0372 ± 0.0041 | 0.0372 ± 0.0041 | 0.0375 ± 0.0042 |
| a (AU) | 0.05994 ± 0.00195 | 0.04988 ± 0.00062 | 0.04963 ± 0.00057 | 0.04970 ± 0.00061 | 0.04968 ± 0.00075 | 0.04938 ± 0.00087 |
| Age (Gyr) | | 3.6 ^{+0.8} _{−0.6} | 3.3 ^{+1.6} _{−0.4} | 3.7 ^{+0.6} _{−1.3} | 3.9 ^{+0.5} _{−1.4} | 3.9 ^{+1.6} _{−0.5} |
| | This work (final) | Mandushev et al. (2007) | TWH08 | Sozzetti et al. (2009) | Daemgen et al. (2009) | |
| $M_{\rm A}$ (M _⊙) | 1.292 ± 0.067 ± 0.022 | 1.22 ± 0.17 | 1.394 ^{+0.060} _{−0.056} | 1.404 ^{+0.066} _{−0.134} | 0.1394 ± 0.058 | |
| $R_{\rm A}$ (R _⊙) | 1.92 ± 0.11 ± 0.01 | 1.738 ± 0.092 | 1.816 ^{+0.065} _{−0.062} | 1.846 ^{+0.096} _{−0.087} | 1.809 ± 0.064 | |
| log $g_{\rm A}$ (cgs) | 3.981 ± 0.047 ± 0.002 | 4.045 ± 0.034 | 4.064 ^{+0.021} _{−0.021} | 4.053 ^{+0.030} _{−0.042} | | |
| ρ _A (ρ _⊙) | 0.182 ± 0.030 | | 0.233 ^{+0.016} _{−0.015} | 0.223 ^{+0.024} _{−0.023} | 0.237 ± 0.016 | |
| $M_{\rm b}$ (M _{Jup}) | 0.877 ± 0.072 ± 0.010 | 0.84 ± 0.10 | 0.920 ^{+0.073} _{−0.072} | 0.925 ± 0.082 | 0.919 ± 0.073 | |
| $R_{\rm b}$ (R _{Jup}) | 1.81 ± 0.15 ± 0.01 | 1.674 ± 0.094 | 1.751 ^{+0.064} _{−0.062} | 1.783 ^{+0.093} _{−0.086} | 1.799 ± 0.063 | |
| $g_{\rm b}$ (m s ^{−1}) | 6.7 ± 1.2 | 7.43 ± 0.65 | 7.45 ^{+0.66} _{−0.64} | 7.21 ± 0.77 | 7.36 ± 0.65 | |
| ρ _b (ρ _{Jup}) | 0.148 ± 0.039 ± 0.001 | 0.158 ± 0.032 | 0.172 ^{+0.024} _{−0.022} | 0.163 ^{+0.031} _{−0.026} | 0.168 ± 0.023 | |
| $T'_{\rm eq}$ (K) | 1861 ± 54 | | 1785 ⁺²⁹ _{−29} | | 1782 ± 29 | |
| Θ | 0.0373 ± 0.0042 ± 0.0002 | | 0.0384 ^{+0.030} _{−0.030} | | 0.0381 ± 0.0030 | |
| a (AU) | 0.04965 ± 0.00087 ± 0.00028 | 0.0488 ± 0.0022 | 0.05092 ^{+0.00072} _{−0.00069} | 0.05105 ^{+0.00079} _{−0.00167} | 0.05091 ± 0.00071 | |
| Age (Gyr) | 3.7 ^{+1.6} _{−1.4} ± 0.2 | 4.7 ± 2.0 | 2.9 ^{+0.4} _{−0.4} | 2.9 ^{+1.5} _{−0.4} | | |

Table A42. Parameters of the JKTEBOP best fits of the WASP-3 LT/RISE light curve from Gibson et al. (2008), using different approaches to LD. For each part of the table the upper quantities are fitted parameters and the lower quantities are derived parameters. T_0 is given as HJD $- 2454000.0$. The original light curves contain 8700 datapoints, and these were binned by a factor of ten (to 870 datapoints) prior to analysis.

| | Linear LD law | Quadratic LD law | Square-root LD law | Logarithmic LD law | Cubic LD law |
|---|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| Fitting for the linear LD coefficient and perturbing the nonlinear LD coefficient | | | | | |
| $r_A + r_b$ | 0.2227 ± 0.0027 | 0.2217 ± 0.0031 | 0.2228 ± 0.0032 | 0.2228 ± 0.0033 | 0.2229 ± 0.0031 |
| k | 0.10997 ± 0.00037 | 0.10916 ± 0.00047 | 0.10939 ± 0.00045 | 0.10935 ± 0.00048 | 0.10967 ± 0.00048 |
| i (deg.) | 84.06 ± 0.28 | 84.24 ± 0.34 | 84.14 ± 0.34 | 84.14 ± 0.34 | 84.09 ± 0.32 |
| u_A | 0.387 ± 0.016 | 0.203 ± 0.043 | -0.007 ± 0.043 | 0.543 ± 0.045 | 0.354 ± 0.027 |
| v_A | | 0.30 perturbed | 0.65 perturbed | 0.25 perturbed | 0.10 perturbed |
| T_0 | 605.55964 ± 0.00010 | 605.56018 ± 0.00007 | 605.55965 ± 0.00011 | 605.55965 ± 0.00011 | 605.55964 ± 0.00010 |
| r_A | 0.2006 ± 0.0024 | 0.1999 ± 0.0028 | 0.2008 ± 0.0028 | 0.2008 ± 0.0029 | 0.2009 ± 0.0027 |
| r_b | 0.02206 ± 0.00032 | 0.02182 ± 0.00038 | 0.02197 ± 0.00037 | 0.02196 ± 0.00038 | 0.02203 ± 0.00037 |
| σ (mmag) | 1.8659 | 1.8719 | 1.8662 | 1.8663 | 1.8661 |
| χ^2_{red} | 6.3170 | 6.3589 | 6.3188 | 6.3194 | 6.3180 |
| Fitting for both LD coefficients | | | | | |
| $r_A + r_b$ | 0.2204 ± 0.0029 | 0.2202 ± 0.0030 | 0.2201 ± 0.0030 | 0.2201 ± 0.0029 | 0.2201 ± 0.0029 |
| k | 0.10981 ± 0.00041 | 0.10988 ± 0.00070 | 0.10990 ± 0.00079 | 0.10990 ± 0.00071 | 0.10991 ± 0.00072 |
| i (deg.) | 84.27 ± 0.31 | 84.27 ± 0.34 | 84.28 ± 0.36 | 84.28 ± 0.35 | 84.28 ± 0.33 |
| u_A | 0.385 ± 0.018 | 0.406 ± 0.101 | 0.471 ± 0.370 | 0.356 ± 0.124 | 0.400 ± 0.051 |
| v_A | | -0.03 ± 0.17 | -0.14 ± 0.61 | -0.05 ± 0.20 | -0.04 ± 0.14 |
| T_0 | 605.560155 ± 0.000076 | 605.560152 ± 0.000074 | 605.560150 ± 0.000074 | 605.560151 ± 0.000070 | 605.560150 ± 0.000078 |
| r_A | 0.1986 ± 0.0025 | 0.1984 ± 0.0026 | 0.1983 ± 0.0026 | 0.1983 ± 0.0025 | 0.1983 ± 0.0025 |
| r_b | 0.02181 ± 0.00034 | 0.02180 ± 0.00039 | 0.02179 ± 0.00041 | 0.02180 ± 0.00039 | 0.02179 ± 0.00038 |
| σ (mmag) | 1.8710 | 1.8710 | 1.8710 | 1.8710 | 1.8710 |
| χ^2_{red} | 6.3525 | 6.3598 | 6.3598 | 6.3598 | 6.3598 |

Table A43. Parameters of the JKTEBOP best fits of the WASP-3 Keele R -band light curve from Pollacco et al. (2008), using different approaches to LD. For each part of the table the upper quantities are fitted parameters and the lower quantities are derived parameters. T_0 is given as HJD $- 2454000.0$. The light curve contains 644 datapoints.

| | Linear LD law | Quadratic LD law | Square-root LD law | Logarithmic LD law | Cubic LD law |
|---|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| All LD coefficients fixed | | | | | |
| $r_A + r_b$ | 0.210 ± 0.025 | 0.223 ± 0.025 | 0.215 ± 0.026 | 0.221 ± 0.026 | 0.224 ± 0.022 |
| k | 0.1073 ± 0.0040 | 0.1085 ± 0.0031 | 0.1076 ± 0.0036 | 0.1085 ± 0.0035 | 0.1097 ± 0.0027 |
| i (deg.) | 84.7 ± 3.6 | 83.4 ± 2.6 | 84.2 ± 3.0 | 83.5 ± 2.5 | 83.1 ± 2.0 |
| u_A | 0.55 fixed | 0.30 fixed | 0.15 fixed | 0.63 fixed | 0.30 fixed |
| v_A | | 0.30 fixed | 0.60 fixed | 0.25 fixed | 0.10 fixed |
| T_0 | 354.38996 ± 0.00068 | 354.38990 ± 0.00071 | 354.38993 ± 0.00069 | 354.38988 ± 0.00070 | 354.38975 ± 0.00063 |
| r_A | 0.190 ± 0.022 | 0.201 ± 0.023 | 0.194 ± 0.023 | 0.199 ± 0.023 | 0.202 ± 0.020 |
| r_b | 0.0204 ± 0.0031 | 0.0218 ± 0.0030 | 0.0209 ± 0.0031 | 0.0216 ± 0.0031 | 0.0221 ± 0.0026 |
| σ (mmag) | 5.7408 | 5.7484 | 5.7452 | 5.7483 | 5.7616 |
| χ^2_{red} | 0.7421 | 0.7458 | 0.7442 | 0.7458 | 0.7519 |
| Fitting for the linear LD coefficient and fixing the nonlinear LD coefficient | | | | | |
| $r_A + r_b$ | 0.190 ± 0.033 | 0.192 ± 0.023 | 0.191 ± 0.026 | 0.192 ± 0.027 | 0.191 ± 0.024 |
| k | 0.0999 ± 0.0072 | 0.0984 ± 0.0062 | 0.0990 ± 0.0064 | 0.0989 ± 0.0062 | 0.0994 ± 0.0053 |
| i (deg.) | 89.5 ± 4.3 | 90.0 ± 3.8 | 89.9 ± 4.0 | 89.9 ± 3.8 | 89.9 ± 3.7 |
| u_A | 0.77 ± 0.26 | 0.67 ± 0.31 | 0.44 ± 0.22 | 0.98 ± 0.25 | 0.76 ± 0.18 |
| v_A | | 0.30 fixed | 0.60 fixed | 0.25 fixed | 0.10 fixed |
| T_0 | 354.39025 ± 0.00079 | 354.39023 ± 0.00074 | 354.39023 ± 0.00078 | 354.39023 ± 0.00078 | 354.39024 ± 0.00072 |
| r_A | 0.173 ± 0.031 | 0.175 ± 0.021 | 0.174 ± 0.024 | 0.174 ± 0.025 | 0.173 ± 0.022 |
| r_b | 0.0173 ± 0.0033 | 0.0172 ± 0.0024 | 0.0172 ± 0.0027 | 0.0172 ± 0.0026 | 0.0172 ± 0.0024 |
| σ (mmag) | 5.7306 | 5.7342 | 5.7318 | 5.7324 | 5.7313 |
| χ^2_{red} | 0.7387 | 0.7404 | 0.7393 | 0.7396 | 0.7390 |

Table A44. Parameters of the JKTEBOP best fits of the IAC 80 cm *I*-band light curve of WASP-3 from Pollacco et al. (2008), using different approaches to LD. For each part of the table the upper quantities are fitted parameters and the lower quantities are derived parameters. T_0 is given as HJD – 2454000.0. The light curve contains 165 datapoints.

| | Linear LD law | Quadratic LD law | Square-root LD law | Logarithmic LD law | Cubic LD law |
|---|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| All LD coefficients fixed | | | | | |
| $r_A + r_b$ | 0.218 ± 0.032 | 0.220 ± 0.035 | 0.219 ± 0.033 | 0.220 ± 0.034 | 0.231 ± 0.033 |
| k | 0.0954 ± 0.0036 | 0.0951 ± 0.0032 | 0.0951 ± 0.0035 | 0.0949 ± 0.0037 | 0.0964 ± 0.0030 |
| i (deg.) | 83.7 ± 4.3 | 83.5 ± 4.5 | 83.6 ± 4.4 | 83.6 ± 4.3 | 82.4 ± 3.0 |
| u_A | 0.40 fixed | 0.20 fixed | 0.05 fixed | 0.55 fixed | 0.20 fixed |
| v_A | | 0.25 fixed | 0.55 fixed | 0.25 fixed | 0.10 fixed |
| T_0 | 317.45430 ± 0.00082 | 317.45428 ± 0.00087 | 317.45428 ± 0.00084 | 317.45428 ± 0.00080 | 317.45421 ± 0.00081 |
| r_A | 0.199 ± 0.029 | 0.201 ± 0.031 | 0.200 ± 0.030 | 0.201 ± 0.030 | 0.211 ± 0.030 |
| r_b | 0.0190 ± 0.0034 | 0.0191 ± 0.0035 | 0.0191 ± 0.0033 | 0.0191 ± 0.0035 | 0.0203 ± 0.0033 |
| σ (mmag) | 5.4764 | 5.4773 | 5.4773 | 5.4786 | 5.4770 |
| χ^2_{red} | 0.7328 | 0.7344 | 0.7337 | 0.7341 | 0.7353 |
| Fitting for the linear LD coefficient and fixing the nonlinear LD coefficient | | | | | |
| $r_A + r_b$ | 0.218 ± 0.032 | 0.219 ± 0.036 | 0.220 ± 0.035 | 0.219 ± 0.035 | 0.220 ± 0.035 |
| k | 0.0953 ± 0.0036 | 0.0948 ± 0.0036 | 0.0951 ± 0.0037 | 0.0948 ± 0.0038 | 0.0952 ± 0.0034 |
| i (deg.) | 83.7 ± 4.4 | 83.7 ± 4.8 | 83.5 ± 4.7 | 83.7 ± 4.8 | 83.6 ± 4.7 |
| u_A | 0.42 ± 0.27 | 0.24 ± 0.30 | 0.06 ± 0.29 | 0.56 ± 0.30 | 0.37 ± 0.28 |
| v_A | | 0.25 fixed | 0.55 fixed | 0.25 fixed | 0.10 fixed |
| T_0 | 317.45430 ± 0.00083 | 317.45428 ± 0.00080 | 317.45429 ± 0.00081 | 317.45428 ± 0.00081 | 317.45429 ± 0.00080 |
| r_A | 0.199 ± 0.028 | 0.200 ± 0.032 | 0.201 ± 0.032 | 0.200 ± 0.032 | 0.201 ± 0.032 |
| r_b | 0.0190 ± 0.0032 | 0.0190 ± 0.0035 | 0.0191 ± 0.0035 | 0.0190 ± 0.0035 | 0.0191 ± 0.0034 |
| σ (mmag) | 5.4772 | 5.4789 | 5.4788 | 5.4785 | 5.4783 |
| χ^2_{red} | 0.7374 | 0.7389 | 0.7383 | 0.7387 | 0.7381 |

Table A45. Final parameters of the fits to the Liverpool Telescope, Keele and IAC *I*-band light curves of WASP-3, compared to literature studies.

| | This work (LT) | This work (Keele) | This work (IAC <i>I</i>) | This work (final) | Pollacco et al. (2008) | Gibson et al. (2008) | Damasso et al. (2009) |
|-------------|---------------------|---------------------|---------------------------|--------------------------|---------------------------|------------------------------|-----------------------|
| $r_A + r_b$ | 0.223 ± 0.012 | 0.221 ± 0.031 | 0.220 ± 0.061 | 0.223 ± 0.011 | 0.212 | | |
| k | 0.1094 ± 0.0028 | 0.1087 ± 0.0065 | 0.0950 ± 0.0154 | 0.1089 ± 0.0025 | $0.103^{+0.001}_{-0.002}$ | $0.1014^{+0.0010}_{-0.0008}$ | 0.1091 ± 0.0006 |
| i (°) | 84.2 ± 1.4 | 83.5 ± 3.1 | 83.6 ± 6.4 | 84.1 ± 1.3 | $84.4^{+2.1}_{-0.8}$ | $85.06^{+0.16}_{-0.15}$ | 81.24 ± 0.06 |
| r_A | 0.201 ± 0.011 | 0.199 ± 0.027 | 0.201 ± 0.058 | 0.201 ± 0.010 | 0.192 | | |
| r_b | 0.0220 ± 0.0012 | 0.0217 ± 0.0035 | 0.0190 ± 0.0053 | 0.0218 ± 0.0011 | 0.0197 | 0.0194 | |

Table A46. Derived physical properties of the WASP-3 system. The upper part of the table contains the individual results from this work; in each case $g_b = 24.2 \pm 2.6 \text{ m s}^{-2}$, $\rho_A = 0.484 \pm 0.073 \rho_\odot$ and $T'_{\text{eq}} = 2028 \pm 59 \text{ K}$. The lower part of the table contains the final results and a comparison to published measurements.

| | This work (Mass-radius) | This work (<i>Claret</i> models) | This work (Y^2 models) | This work (<i>Teramo</i> models) | This work (<i>VRSS</i> models) | This work (<i>DSEP</i> models) |
|----------------------------------|-----------------------------------|--------------------------------------|------------------------------|--------------------------------------|------------------------------------|------------------------------------|
| K_b (km s^{-1}) | 192.4 ± 6.3 | 187.2 ± 4.6 | 187.0 ± 4.3 | 186.2 ± 4.9 | 186.6 ± 2.9 | 185.3 ± 5.0 |
| M_A (M_\odot) | 1.388 ± 0.135 | 1.279 ± 0.093 | 1.276 ± 0.088 | 1.260 ± 0.099 | 1.266 ± 0.059 | 1.241 ± 0.100 |
| R_A (R_\odot) | 1.421 ± 0.110 | 1.382 ± 0.079 | 1.381 ± 0.081 | 1.375 ± 0.085 | 1.378 ± 0.079 | 1.368 ± 0.083 |
| $\log g_A$ (cgs) | 4.276 ± 0.034 | 4.264 ± 0.044 | 4.263 ± 0.043 | 4.261 ± 0.042 | 4.262 ± 0.041 | 4.259 ± 0.043 |
| M_b (M_{Jup}) | 2.196 ± 0.159 | 2.079 ± 0.122 | 2.076 ± 0.117 | 2.058 ± 0.127 | 2.065 ± 0.095 | 2.037 ± 0.129 |
| R_b (R_{Jup}) | 1.500 ± 0.090 | 1.459 ± 0.082 | 1.458 ± 0.081 | 1.452 ± 0.083 | 1.455 ± 0.077 | 1.445 ± 0.083 |
| ρ_b (ρ_{Jup}) | 0.65 ± 0.10 | 0.67 ± 0.11 | 0.67 ± 0.11 | 0.67 ± 0.11 | 0.67 ± 0.11 | 0.68 ± 0.11 |
| Θ | 0.0693 ± 0.0047 | 0.0712 ± 0.0046 | 0.0712 ± 0.0046 | 0.0716 ± 0.0047 | 0.0714 ± 0.0045 | 0.0719 ± 0.0048 |
| a (AU) | 0.03288 ± 0.00106 | 0.03199 ± 0.00078 | 0.03197 ± 0.00073 | 0.03183 ± 0.00083 | 0.03189 ± 0.00049 | 0.03167 ± 0.00086 |
| Age (Gyr) | | $2.1^{+1.5}_{-1.2}$ | $2.1^{+1.2}_{-1.0}$ | $2.1^{+1.1}_{-1.1}$ | $1.8^{+1.2}_{-0.9}$ | $2.5^{+1.4}_{-1.1}$ |
| | This work (final) | Pollacco et al. (2008) | Gibson et al. (2008) | Simpson et al. (2009) | Tripathi et al. (2010) | |
| M_A (M_\odot) | $1.26 \pm 0.10 \pm 0.02$ | $1.24^{+0.06}_{-0.11}$ | | | 1.24 adopted | |
| R_A (R_\odot) | $1.377 \pm 0.085 \pm 0.009$ | $1.31^{+0.05}_{-0.12}$ | | $1.31^{+0.05}_{-0.07}$ | | |
| $\log g_A$ (cgs) | $4.262 \pm 0.044 \pm 0.003$ | $4.30^{+0.07}_{-0.03}$ | | | | |
| ρ_A (ρ_\odot) | 0.484 ± 0.073 | $0.55^{+0.15}_{-0.05}$ | | | | |
| M_b (M_{Jup}) | $2.06 \pm 0.13 \pm 0.03$ | $1.76^{+0.08}_{-0.14}$ | $1.76^{+0.08}_{-0.14}$ | | 2.04 ± 0.07 | |
| R_b (R_{Jup}) | $1.454 \pm 0.083 \pm 0.009$ | $1.31^{+0.07}_{-0.14}$ | $1.29^{+0.05}_{-0.12}$ | $1.29^{+0.05}_{-0.07}$ | | |
| g_b (m s^{-1}) | 24.2 ± 2.6 | $23.4^{+5.4}_{-2.1}$ | $26.3^{+3.9}_{-2.3}$ | | | |
| ρ_b (ρ_{Jup}) | $0.67 \pm 0.11 \pm 0.00$ | $0.78^{+0.28}_{-0.09}$ | $0.82^{+0.14}_{-0.09}$ | | | |
| T'_{eq} (K) | 2028 ± 59 | 1960^{+33}_{-76} | | | | |
| Θ | $0.0715 \pm 0.0048 \pm 0.0004$ | | | | | |
| a (AU) | $0.03187 \pm 0.00086 \pm 0.00020$ | $0.0317^{+0.0005}_{-0.0010}$ | | | | |
| Age (Gyr) | $2.1^{+1.5+0.4}_{-1.2-0.3}$ | $0.7 \text{ to } 3.5$ | | | | |

Table A47. Parameters of the JKTEBOP best fits of the WASP-10 z -band light curve from Johnson et al. (2009), using different approaches to LD. For each part of the table the upper quantities are fitted parameters and the lower quantities are derived parameters. T_0 is given as HJD $- 2454000.0$. The light curve contains 194 datapoints.

| | Linear LD law | Quadratic LD law | Square-root LD law | Logarithmic LD law | Cubic LD law |
|---|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| Fitting for the linear LD coefficient and perturbing the nonlinear LD coefficient | | | | | |
| $r_A + r_b$ | 0.0989 ± 0.0043 | 0.0993 ± 0.0041 | 0.1003 ± 0.0042 | 0.0999 ± 0.0042 | 0.1003 ± 0.0042 |
| k | 0.15738 ± 0.00068 | 0.15527 ± 0.00105 | 0.15640 ± 0.00076 | 0.15588 ± 0.00094 | 0.15658 ± 0.00094 |
| i (deg.) | 88.70 ± 0.24 | 88.97 ± 0.37 | 88.76 ± 0.27 | 88.85 ± 0.32 | 88.75 ± 0.28 |
| u_A | 0.535 ± 0.016 | 0.431 ± 0.028 | 0.271 ± 0.040 | 0.713 ± 0.056 | 0.519 ± 0.019 |
| v_A | | 0.27 perturbed | 0.47 perturbed | 0.23 perturbed | 0.10 perturbed |
| T_0 | 664.030925 ± 0.000053 | 664.030931 ± 0.000054 | 664.030927 ± 0.000054 | 664.030929 ± 0.000050 | 664.030927 ± 0.000052 |
| r_A | 0.0854 ± 0.0037 | 0.0860 ± 0.0035 | 0.0867 ± 0.0036 | 0.0865 ± 0.0036 | 0.0867 ± 0.0037 |
| r_b | 0.01344 ± 0.00060 | 0.01335 ± 0.00059 | 0.01357 ± 0.00059 | 0.01348 ± 0.00058 | 0.01358 ± 0.00058 |
| σ (mmag) | 0.5170 | 0.5373 | 0.5232 | 0.5278 | 0.5219 |
| Fitting for both LD coefficients | | | | | |
| $r_A + r_b$ | 0.0989 ± 0.0042 | 0.0993 ± 0.0043 | 0.0987 ± 0.0042 | 0.0983 ± 0.0043 | 0.0987 ± 0.0042 |
| k | 0.15738 ± 0.00076 | 0.15936 ± 0.00100 | 0.15984 ± 0.00111 | 0.15965 ± 0.00107 | 0.15973 ± 0.00118 |
| i (deg.) | 88.70 ± 0.23 | 88.45 ± 0.23 | 88.45 ± 0.22 | 88.47 ± 0.23 | 88.45 ± 0.24 |
| u_A | 0.535 ± 0.016 | 0.67 ± 0.06 | 1.24 ± 0.29 | 0.25 ± 0.11 | 0.60 ± 0.03 |
| v_A | | -0.29 ± 0.13 | -1.23 ± 0.49 | -0.39 ± 0.17 | -0.31 ± 0.14 |
| T_0 | 664.030925 ± 0.000053 | 664.030920 ± 0.000054 | 664.030920 ± 0.000052 | 664.030920 ± 0.000054 | 664.030920 ± 0.000052 |
| r_A | 0.0854 ± 0.0036 | 0.0857 ± 0.0038 | 0.0851 ± 0.0036 | 0.0847 ± 0.0037 | 0.0851 ± 0.0036 |
| r_b | 0.01344 ± 0.00057 | 0.01365 ± 0.00061 | 0.01360 ± 0.00059 | 0.01353 ± 0.00061 | 0.01359 ± 0.00057 |
| σ (mmag) | 0.5170 | 0.5090 | 0.5095 | 0.5092 | 0.5096 |

Table A48. Parameters of the JKTEBOP best fits of the WASP-10 Mercator light curve from Christian et al. (2009), using different approaches to LD. For each part of the table the upper quantities are fitted parameters and the lower quantities are derived parameters. T_0 is given as HJD $- 2454000.0$. The light curve contains 170 datapoints.

| | Linear LD law | Quadratic LD law | Square-root LD law | Logarithmic LD law | Cubic LD law |
|---|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| All LD coefficients fixed | | | | | |
| $r_A + r_b$ | 0.1022 ± 0.0058 | 0.1024 ± 0.0053 | 0.1021 ± 0.0058 | 0.1022 ± 0.0062 | 0.1028 ± 0.0060 |
| k | 0.1573 ± 0.0027 | 0.1575 ± 0.0026 | 0.1576 ± 0.0027 | 0.1581 ± 0.0027 | 0.1605 ± 0.0025 |
| i (deg.) | 88.47 ± 0.96 | 88.44 ± 0.92 | 88.44 ± 0.96 | 88.38 ± 0.81 | 88.15 ± 0.62 |
| u_A | 0.80 fixed | 0.75 fixed | 0.73 fixed | 0.82 fixed | 0.70 fixed |
| v_A | | 0.07 fixed | 0.10 fixed | 0.07 fixed | 0.05 fixed |
| T_0 | 345.48666 ± 0.00024 | 345.48662 ± 0.00023 | 345.48663 ± 0.00023 | 345.48660 ± 0.00023 | 345.48652 ± 0.00022 |
| r_A | 0.0883 ± 0.0049 | 0.0884 ± 0.0044 | 0.0882 ± 0.0049 | 0.0883 ± 0.0052 | 0.0885 ± 0.0051 |
| r_b | 0.01389 ± 0.00092 | 0.01393 ± 0.00085 | 0.01389 ± 0.00093 | 0.01396 ± 0.00099 | 0.01421 ± 0.00098 |
| σ (mmag) | 2.7677 | 2.7649 | 2.7659 | 2.7642 | 2.7652 |
| χ^2_{red} | 2.5725 | 2.5670 | 2.5689 | 2.5654 | 2.5653 |
| Fitting for the linear LD coefficient and fixing the nonlinear LD coefficient | | | | | |
| $r_A + r_b$ | 0.1027 ± 0.0058 | 0.1023 ± 0.0062 | 0.1023 ± 0.0064 | 0.1026 ± 0.0060 | 0.1027 ± 0.0062 |
| k | 0.1599 ± 0.0035 | 0.1592 ± 0.0037 | 0.1596 ± 0.0037 | 0.1594 ± 0.0036 | 0.1593 ± 0.0033 |
| i (deg.) | 88.22 ± 0.79 | 88.29 ± 0.98 | 88.26 ± 0.87 | 88.25 ± 0.93 | 88.26 ± 0.81 |
| u_A | 0.736 ± 0.056 | 0.709 ± 0.062 | 0.680 ± 0.057 | 0.791 ± 0.060 | 0.731 ± 0.057 |
| v_A | | 0.07 fixed | 0.10 fixed | 0.07 fixed | 0.05 fixed |
| T_0 | 345.48656 ± 0.00023 | 345.48656 ± 0.00023 | 345.48656 ± 0.00023 | 345.48656 ± 0.00023 | 345.48656 ± 0.00024 |
| r_A | 0.0885 ± 0.0049 | 0.0883 ± 0.0051 | 0.0883 ± 0.0053 | 0.0885 ± 0.0050 | 0.0886 ± 0.0052 |
| r_b | 0.01416 ± 0.00098 | 0.01405 ± 0.00106 | 0.01409 ± 0.00106 | 0.01411 ± 0.00101 | 0.01411 ± 0.00102 |
| σ (mmag) | 2.7639 | 2.7637 | 2.7638 | 2.7637 | 2.7637 |
| χ^2_{red} | 2.5797 | 2.5794 | 2.5795 | 2.5793 | 2.5793 |

Table A49. Final parameters of the JKTEBOP fits to the OPTIC and Mercator light curves of WASP-10, compared to literature studies.

| | This work (Mercator) | This work (OPTIC, final) | Christian et al. (2009) | Johnson et al. (2009) |
|-------------|----------------------|---------------------------------|-------------------------|---------------------------------|
| $r_A + r_b$ | 0.103 ± 0.011 | 0.09995 ± 0.0047 | 0.1142 | 0.09954 |
| k | 0.1594 ± 0.0067 | 0.1561 ± 0.0011 | 0.170 ± 0.003 | $0.15918^{+0.00050}_{-0.00115}$ |
| i (°) | 88.3 ± 1.7 | 88.81 ± 0.40 | $86.8^{+0.6}_{-0.5}$ | $88.49^{+0.22}_{-0.17}$ |
| r_A | 0.0884 ± 0.0095 | 0.0865 ± 0.0041 | 0.0977 | $0.08584^{+0.00067}_{-0.00047}$ |
| r_b | 0.0141 ± 0.0019 | 0.01349 ± 0.00065 | 0.0166 | 0.01365 |

Table A50. Derived physical properties of the WASP-10 system. The upper part of the table contains the individual results from this work; in each case $g_b = 68.9 \pm 6.7 \text{ m s}^{-2}$, $\rho_A = 2.16 \pm 0.31 \rho_\odot$ and $T'_{\text{eq}} = 972 \pm 31 \text{ K}$. The lower part of the table contains the final results and a comparison to published measurements.

| | This work (Mass-radius) | This work (Claret models) | This work (Y ² models) | This work (Teramo models) | This work (VRSS models) | This work (DSEP models) |
|------------------------------|--------------------------------|------------------------------|--------------------------------------|------------------------------|----------------------------|----------------------------|
| K_b (km s ⁻¹) | 126.5 ± 5.0 | 135.4 ± 3.7 | 131.0 ± 4.3 | 132.0 ± 4.9 | 132.0 ± 3.3 | 132.8 ± 3.5 |
| M_A (M _⊙) | 0.652 ± 0.076 | 0.799 ± 0.064 | 0.723 ± 0.071 | 0.741 ± 0.081 | 0.741 ± 0.055 | 0.754 ± 0.059 |
| R_A (R _⊙) | 0.671 ± 0.052 | 0.718 ± 0.033 | 0.694 ± 0.034 | 0.700 ± 0.035 | 0.700 ± 0.029 | 0.704 ± 0.036 |
| $\log g_A$ (cgs) | 4.599 ± 0.034 | 4.629 ± 0.046 | 4.614 ± 0.047 | 4.618 ± 0.049 | 4.618 ± 0.048 | 4.620 ± 0.044 |
| M_b (M _{Jup}) | 2.88 ± 0.23 | 3.30 ± 0.19 | 3.08 ± 0.21 | 3.13 ± 0.23 | 3.13 ± 0.16 | 3.17 ± 0.17 |
| R_b (R _{Jup}) | 1.018 ± 0.063 | 1.090 ± 0.062 | 1.054 ± 0.061 | 1.062 ± 0.064 | 1.063 ± 0.058 | 1.069 ± 0.059 |
| ρ_b (ρ _{Jup}) | 2.73 ± 0.41 | 2.55 ± 0.38 | 2.63 ± 0.39 | 2.61 ± 0.39 | 2.61 ± 0.39 | 2.60 ± 0.38 |
| Θ | 0.312 ± 0.020 | 0.292 ± 0.017 | 0.302 ± 0.018 | 0.299 ± 0.019 | 0.299 ± 0.017 | 0.298 ± 0.017 |
| a (AU) | 0.03607 ± 0.00141 | 0.03861 ± 0.00105 | 0.03734 ± 0.00122 | 0.03764 ± 0.00138 | 0.03764 ± 0.00093 | 0.03786 ± 0.00098 |
| Age (Gyr) | | 0 to 20 | 0 to 20 | 0 to 20 | 0 to 20 | 0 to 12 |
| | This work (final) | Christian et al. (2009) | Johnson et al. (2009) | | | |
| M_A (M _⊙) | $0.752 \pm 0.081 \pm 0.048$ | $0.703^{+0.068}_{-0.080}$ | $0.75^{+0.040}_{-0.028}$ | | | |
| R_A (R _⊙) | $0.703 \pm 0.036 \pm 0.015$ | $0.775^{+0.043}_{-0.040}$ | 0.698 ± 0.012 | | | |
| $\log g_A$ (cgs) | $4.620 \pm 0.049 \pm 0.009$ | $4.51^{+0.06}_{-0.05}$ | $4.627^{+0.0101}_{-0.0093}$ | | | |
| ρ_A (ρ _⊙) | 2.16 ± 0.31 | $1.51^{+0.25}_{-0.21}$ | 2.201 ± 0.063 | | | |
| M_b (M _{Jup}) | $3.16 \pm 0.23 \pm 0.13$ | $2.96^{+0.22}_{-0.17}$ | $3.15^{+0.13}_{-0.11}$ | | | |
| R_b (R _{Jup}) | $1.067 \pm 0.064 \pm 0.022$ | $1.28^{+0.08}_{-0.09}$ | 1.080 ± 0.020 | | | |
| g_b (m s ⁻¹) | 68.9 ± 6.7 | $41.7^{+5.1}_{-4.5}$ | 67.3 ± 1.9 | | | |
| ρ_b (ρ _{Jup}) | $2.60 \pm 0.40 \pm 0.05$ | $1.43^{+0.31}_{-0.29}$ | 3.11 ± 0.020 | | | |
| T'_{eq} (K) | 972 ± 31 | 1119^{+26}_{-28} | 969 * | | | |
| Θ | $0.298 \pm 0.019 \pm 0.006$ | | | | | |
| a (AU) | $0.0378 \pm 0.0014 \pm 0.0008$ | $0.0369^{+0.0012}_{-0.0014}$ | $0.03781^{+0.00067}_{-0.00047}$ | | | |
| Age (Gyr) | 0.0 to 20.0 | | | | | |

* This quantity is a corrected version of the published value, which appears to be too large by a factor of $\sqrt{2}$; see the incorrect formula for T'_{eq} given by Johnson et al. (2009) in their Table 2.

Table A51. Parameters of the JKTEBOP best fits of the XO-2 *R*-band light curve from Burke et al. (2007), using different approaches to LD. For each part of the table the upper quantities are fitted parameters and the lower quantities are derived parameters. T_0 is given as HJD – 2454000.0. The light curve contains 734 datapoints.

| | Linear LD law | Quadratic LD law | Square-root LD law | Logarithmic LD law | Cubic LD law |
|---|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|
| Fitting for the linear LD coefficient and perturbing the nonlinear LD coefficient | | | | | |
| $r_A + r_b$ | $0.1585^{+0.0090}_{-0.0100}$ | $0.1594^{+0.0097}_{-0.0113}$ | $0.1351^{+0.0192}_{-0.0034}$ | $0.1356^{+0.0164}_{-0.0037}$ | $0.1349^{+0.0166}_{-0.0035}$ |
| k | $0.1039^{+0.0032}_{-0.0034}$ | $0.1030^{+0.0033}_{-0.0044}$ | $0.1008^{+0.0030}_{-0.0015}$ | $0.1005^{+0.0028}_{-0.0015}$ | $0.1009^{+0.0025}_{-0.0016}$ |
| i (deg.) | $86.2^{+1.4}_{-1.0}$ | $86.2^{+1.8}_{-1.0}$ | $89.9^{+1.4}_{-2.8}$ | $89.8^{+1.4}_{-2.3}$ | $90.0^{+1.4}_{-2.4}$ |
| u_A | $0.848^{+0.047}_{-0.046}$ | $0.725^{+0.076}_{-0.072}$ | $0.462^{+0.060}_{-0.062}$ | $0.877^{+0.081}_{-0.072}$ | $0.697^{+0.047}_{-0.052}$ |
| v_A | | 0.25 perturbed | 0.45 perturbed | 0.20 perturbed | 0.10 perturbed |
| T_0 | $147.74281^{+0.00027}_{-0.00025}$ | $147.74296^{+0.00027}_{-0.00026}$ | $147.74387^{+0.00024}_{-0.00028}$ | $147.74383^{+0.00024}_{-0.00028}$ | $147.74388^{+0.00026}_{-0.00027}$ |
| r_A | $0.1436^{+0.0078}_{-0.0086}$ | $0.1445^{+0.0081}_{-0.0097}$ | $0.1227^{+0.0142}_{-0.0030}$ | $0.1232^{+0.0138}_{-0.0033}$ | $0.1225^{+0.0142}_{-0.0031}$ |
| r_b | $0.01492^{+0.00126}_{-0.00134}$ | $0.01488^{+0.00131}_{-0.00160}$ | $0.01237^{+0.00168}_{-0.00038}$ | $0.01238^{+0.00177}_{-0.00041}$ | $0.01236^{+0.00172}_{-0.00037}$ |
| σ (mmag) | 1.7447 | 1.7437 | 1.7390 | 1.7393 | 1.7388 |
| Fitting for both LD coefficients | | | | | |
| $r_A + r_b$ | $0.1585^{+0.0079}_{-0.0092}$ | $0.1355^{+0.0061}_{-0.0032}$ | $0.1347^{+0.0063}_{-0.0027}$ | $0.1850^{+0.0085}_{-0.0117}$ | $0.1862^{+0.0094}_{-0.0103}$ |
| k | $0.1039^{+0.0028}_{-0.0031}$ | $0.1030^{+0.0021}_{-0.0014}$ | $0.1033^{+0.0021}_{-0.0013}$ | $0.1017^{+0.0023}_{-0.0021}$ | $0.1011^{+0.0020}_{-0.0022}$ |
| i (deg.) | $86.25^{+1.27}_{-0.89}$ | $88.58^{+1.39}_{-1.19}$ | $88.65^{+1.22}_{-1.32}$ | $84.51^{+0.87}_{-0.69}$ | $84.51^{+0.85}_{-0.73}$ |
| u_A | $0.848^{+0.045}_{-0.045}$ | $0.78^{+0.10}_{-0.10}$ | $1.21^{+0.45}_{-0.49}$ | $1.82^{+0.20}_{-0.27}$ | $0.79^{+0.10}_{-0.11}$ |
| v_A | | $-0.19^{+0.21}_{-0.20}$ | $-0.91^{+0.83}_{-0.77}$ | $1.24^{+0.34}_{-0.38}$ | $0.90^{+0.21}_{-0.22}$ |
| T_0 | $147.74281^{+0.00027}_{-0.00025}$ | $147.74404^{+0.00021}_{-0.00021}$ | $147.74406^{+0.00022}_{-0.00021}$ | $147.74299^{+0.00024}_{-0.00025}$ | $147.74301^{+0.00024}_{-0.00025}$ |
| r_A | $0.1436^{+0.0068}_{-0.0079}$ | $0.1228^{+0.0054}_{-0.0028}$ | $0.1221^{+0.0055}_{-0.0025}$ | $0.1680^{+0.0076}_{-0.0106}$ | $0.1691^{+0.0083}_{-0.0092}$ |
| r_b | $0.01492^{+0.00115}_{-0.00123}$ | $0.01265^{+0.00081}_{-0.00036}$ | $0.01261^{+0.00087}_{-0.00028}$ | $0.01708^{+0.00103}_{-0.00117}$ | $0.01711^{+0.00109}_{-0.00115}$ |
| σ (mmag) | 1.7447 | 1.7377 | 1.7377 | 1.7412 | 1.7405 |

Table A52. Parameters of the JKTEBOP best fits of the XO-2 *z*-band light curve from Fernandez et al. (2009), using different approaches to LD. For each part of the table the upper quantities are fitted parameters and the lower quantities are derived parameters. T_0 is given as HJD – 2454000.0. The light curve contains 2037 datapoints.

| | Linear LD law | Quadratic LD law | Square-root LD law | Logarithmic LD law | Cubic LD law |
|---|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|
| Fitting for the linear LD coefficient and perturbing the nonlinear LD coefficient | | | | | |
| $r_A + r_b$ | $0.1395^{+0.0048}_{-0.0047}$ | $0.1358^{+0.0057}_{-0.0017}$ | $0.1373^{+0.0056}_{-0.0026}$ | $0.1372^{+0.0051}_{-0.0026}$ | $0.1361^{+0.0052}_{-0.0023}$ |
| k | $0.1063^{+0.0010}_{-0.0011}$ | $0.1047^{+0.0011}_{-0.0009}$ | $0.1054^{+0.0011}_{-0.0009}$ | $0.1051^{+0.0011}_{-0.0009}$ | $0.1053^{+0.0011}_{-0.0009}$ |
| i (deg.) | $87.90^{+1.20}_{-0.75}$ | $89.09^{+1.00}_{-1.34}$ | $88.49^{+1.40}_{-1.06}$ | $88.58^{+1.34}_{-1.04}$ | $88.75^{+1.17}_{-1.15}$ |
| u_A | $0.445^{+0.036}_{-0.036}$ | $0.314^{+0.047}_{-0.053}$ | $0.147^{+0.051}_{-0.057}$ | $0.636^{+0.062}_{-0.056}$ | $0.428^{+0.037}_{-0.039}$ |
| v_A | | 0.30 perturbed | 0.52 perturbed | 0.26 perturbed | 0.10 perturbed |
| T_0 | $466.88456^{+0.00015}_{-0.00016}$ | $466.88456^{+0.00015}_{-0.00016}$ | $466.88456^{+0.00016}_{-0.00017}$ | $466.88456^{+0.00015}_{-0.00017}$ | $466.88456^{+0.00016}_{-0.00015}$ |
| r_A | $0.1261^{+0.0042}_{-0.0042}$ | $0.1230^{+0.0050}_{-0.0016}$ | $0.1242^{+0.0050}_{-0.0023}$ | $0.1241^{+0.0045}_{-0.0024}$ | $0.1232^{+0.0046}_{-0.0020}$ |
| r_b | $0.01341^{+0.00055}_{-0.00056}$ | $0.01287^{+0.00072}_{-0.00019}$ | $0.01309^{+0.00065}_{-0.00033}$ | $0.01305^{+0.00061}_{-0.00030}$ | $0.01297^{+0.00064}_{-0.00026}$ |
| σ (mmag) | 2.1820 | 2.1823 | 2.1818 | 2.1819 | 2.1819 |
| Fitting for both LD coefficients | | | | | |
| $r_A + r_b$ | $0.1395^{+0.0046}_{-0.0048}$ | $0.1362^{+0.0058}_{-0.0023}$ | $0.1364^{+0.0061}_{-0.0025}$ | $0.1345^{+0.0274}_{-0.0036}$ | $0.1435^{+0.0059}_{-0.0042}$ |
| k | $0.1063^{+0.0010}_{-0.0010}$ | $0.1053^{+0.0014}_{-0.0011}$ | $0.1049^{+0.0017}_{-0.0014}$ | $0.1046^{+0.0017}_{-0.0068}$ | $0.0978^{+0.0059}_{-0.0020}$ |
| i (deg.) | $87.90^{+1.15}_{-0.75}$ | $88.76^{+1.20}_{-1.25}$ | $88.82^{+1.16}_{-1.39}$ | $89.97^{+1.35}_{-2.82}$ | $89.45^{+1.25}_{-1.42}$ |
| u_A | $0.444^{+0.035}_{-0.033}$ | $0.39^{+0.12}_{-0.13}$ | $0.00^{+0.66}_{-0.64}$ | $0.64^{+1.82}_{-0.29}$ | $0.331^{+0.069}_{-0.074}$ |
| v_A | | $0.13^{+0.23}_{-0.25}$ | $0.78^{+1.09}_{-1.14}$ | $0.26^{+2.27}_{-0.40}$ | $1.48^{+0.28}_{-1.00}$ |
| T_0 | $466.88456^{+0.00016}_{-0.00015}$ | $466.88456^{+0.00016}_{-0.00015}$ | $466.88456^{+0.00016}_{-0.00016}$ | $466.88456^{+0.00016}_{-0.00015}$ | $466.88456^{+0.00017}_{-0.00016}$ |
| r_A | $0.1261^{+0.0041}_{-0.0042}$ | $0.1232^{+0.0051}_{-0.0021}$ | $0.1234^{+0.0053}_{-0.0023}$ | $0.1217^{+0.0256}_{-0.0032}$ | $0.1307^{+0.0053}_{-0.0044}$ |
| r_b | $0.01341^{+0.00056}_{-0.00056}$ | $0.01297^{+0.00070}_{-0.00026}$ | $0.01295^{+0.00080}_{-0.00023}$ | $0.01274^{+0.00198}_{-0.00033}$ | $0.01278^{+0.00083}_{-0.00026}$ |
| σ (mmag) | 2.1820 | 2.1820 | 2.1818 | 2.1819 | 2.1833 |

Table A53. Final parameters of the fits to the Perkins *R*-band and KeplerCam *z*-band light curves of XO-2, compared to literature studies.

| | This work (Perkins) | This work (KeplerCam) | This work (final) | Burke et al. (2007) | TWH08 | Fernandez et al. (2009) |
|------------------|-------------------------------|----------------------------------|----------------------------------|---------------------------|---------------------------------|---------------------------------|
| $r_A + r_b$ | $0.141^{+0.015}_{-0.022}$ | $0.1366^{+0.0027}_{-0.0058}$ | $0.1367^{+0.0027}_{-0.0054}$ | 0.135 | 0.1346 | 0.1359 |
| k | $0.1013^{+0.0051}_{-0.0060}$ | 0.1051 ± 0.0012 | $0.1049^{+0.0012}_{-0.0011}$ | 0.107 | $0.10395^{+0.00090}_{-0.00085}$ | $0.10485^{+0.00070}_{-0.00062}$ |
| i ($^\circ$) | $89.0^{+1.0}_{-3.3}$ | $88.7^{+1.3}_{-1.4}$ | $88.8^{+1.2}_{-1.3}$ | 88.9 ± 0.7 | $88.90^{+0.60}_{-0.75}$ | 88.9 |
| r_A | $0.128^{+0.014}_{-0.017}$ | $0.1236^{+0.0024}_{-0.0051}$ | $0.1237^{+0.0024}_{-0.0047}$ | $0.122^{+0.050}_{-0.015}$ | $0.1220^{+0.0029}_{-0.0015}$ | $0.1230^{+0.0030}_{-0.0014}$ |
| r_b | $0.01300^{+0.0019}_{-0.0029}$ | $0.012994^{+0.00034}_{-0.00072}$ | $0.012995^{+0.00033}_{-0.00070}$ | $0.013^{+0.004}_{-0.002}$ | 0.01268 | 0.01290 |

Table A54. Derived physical properties of the XO-2 system. The upper part of the table contains the individual results from this work; in each case $g_b = 14.0^{+2.1}_{-1.5} \text{ m s}^{-2}$, $\rho_A = 1.037^{+0.128}_{-0.058} \rho_\odot$ and $T'_{\text{eq}} = 1328^{+17}_{-28} \text{ K}$. The lower part of the table contains the final results and a comparison to published measurements.

| | This work (Mass-radius) | This work (<i>Claret</i> models) | This work (Y^2 models) | This work (<i>Teramo</i> models) | This work (<i>VRSS</i> models) | This work (<i>DSEP</i> models) |
|----------------------------------|---|--------------------------------------|---------------------------------|--------------------------------------|------------------------------------|------------------------------------|
| K_b (km s^{-1}) | $151.6^{+4.0}_{-4.7}$ | $154.4^{+2.1}_{-2.4}$ | $152.1^{+2.5}_{-0.2}$ | $150.5^{+1.6}_{-1.5}$ | $148.2^{+1.3}_{-0.9}$ | $152.6^{+2.0}_{-0.8}$ |
| M_A (M_\odot) | $0.946^{+0.075}_{-0.087}$ | $1.000^{+0.041}_{-0.046}$ | $0.955^{+0.046}_{-0.037}$ | $0.926^{+0.030}_{-0.027}$ | $0.883^{+0.024}_{-0.016}$ | $0.965^{+0.038}_{-0.014}$ |
| R_A (R_\odot) | $0.970^{+0.037}_{-0.060}$ | $0.988^{+0.016}_{-0.035}$ | $0.973^{+0.028}_{-0.031}$ | $0.963^{+0.020}_{-0.034}$ | $0.948^{+0.026}_{-0.035}$ | $0.976^{+0.023}_{-0.031}$ |
| $\log g_A$ (cgs) | $4.440^{+0.027}_{-0.016}$ | $4.448^{+0.036}_{-0.021}$ | $4.442^{+0.037}_{-0.014}$ | $4.437^{+0.036}_{-0.018}$ | $4.430^{+0.035}_{-0.014}$ | $4.443^{+0.037}_{-0.016}$ |
| M_b (M_{Jup}) | $0.555^{+0.060}_{-0.063}$ | $0.576^{+0.057}_{-0.057}$ | $0.559^{+0.062}_{-0.047}$ | $0.548^{+0.053}_{-0.053}$ | $0.531^{+0.051}_{-0.050}$ | $0.563^{+0.055}_{-0.053}$ |
| R_b (R_{Jup}) | $0.992^{+0.036}_{-0.062}$ | $1.011^{+0.029}_{-0.057}$ | $0.996^{+0.034}_{-0.049}$ | $0.985^{+0.027}_{-0.054}$ | $0.970^{+0.026}_{-0.053}$ | $0.999^{+0.028}_{-0.054}$ |
| ρ_b (ρ_{Jup}) | $0.568^{+0.117}_{-0.069}$ | $0.558^{+0.114}_{-0.067}$ | $0.567^{+0.111}_{-0.072}$ | $0.573^{+0.117}_{-0.068}$ | $0.582^{+0.119}_{-0.069}$ | $0.565^{+0.115}_{-0.067}$ |
| Θ | $0.0431^{+0.0049}_{-0.0043}$ | $0.0423^{+0.0047}_{-0.0042}$ | $0.0430^{+0.0044}_{-0.0045}$ | $0.0434^{+0.0048}_{-0.0043}$ | $0.0441^{+0.0049}_{-0.0043}$ | $0.0428^{+0.0047}_{-0.0042}$ |
| a (AU) | $0.03648^{+0.00095}_{-0.00114}$ | $0.03716^{+0.00051}_{-0.00058}$ | $0.03660^{+0.00059}_{-0.00047}$ | $0.03622^{+0.00039}_{-0.00036}$ | $0.03566^{+0.00032}_{-0.00022}$ | $0.03672^{+0.00047}_{-0.00018}$ |
| Age (Gyr) | | $2.8^{+4.5}_{-0.0}$ | $0.0^{+0.0}_{-0.0}$ | $0.0^{+2.7}_{-0.0}$ | $0.0^{+1.0}_{-0.0}$ | $6.6^{+0.8}_{-3.4}$ |
| | | | | | | |
| | This work (final) | Burke et al. (2007) | TWH08 | Fernandez et al. (2009) | | |
| M_A (M_\odot) | $0.946^{+0.046}_{-0.046}^{+0.054}_{-0.062}$ | 0.98 ± 0.02 | $0.974^{+0.055}_{-0.055}$ | 0.971 ± 0.034 | | |
| R_A (R_\odot) | $0.970^{+0.028}_{-0.035}^{+0.018}_{-0.022}$ | $0.964^{+0.02}_{-0.01}$ | $0.971^{+0.027}_{-0.026}$ | $0.976^{+0.024}_{-0.016}$ | | |
| $\log g_A$ (cgs) | $4.440^{+0.037}_{-0.021}^{+0.008}_{-0.010}$ | 4.48 ± 0.05 | $4.452^{+0.020}_{-0.022}$ | $4.448^{+0.021}_{-0.021}$ | | |
| ρ_A (ρ_\odot) | $1.037^{+0.128}_{-0.058}$ | | $1.083^{+0.040}_{-0.078}$ | $1.054^{+0.036}_{-0.074}$ | | |
| M_b (M_{Jup}) | $0.555^{+0.062}_{-0.057}^{+0.021}_{-0.025}$ | 0.57 ± 0.06 | $0.566^{+0.055}_{-0.055}$ | 0.565 ± 0.054 | | |
| R_b (R_{Jup}) | $0.992^{+0.034}_{-0.057}^{+0.019}_{-0.022}$ | $0.98^{+0.03}_{-0.01}$ | $0.983^{+0.029}_{-0.028}$ | $0.996^{+0.031}_{-0.018}$ | | |
| g_b (m s^{-1}) | $14.0^{+2.1}_{-1.5}$ | 14.8 ± 1.6 | $14.7^{+1.5}_{-1.5}$ | 14.0 ± 1.5 | | |
| ρ_b (ρ_{Jup}) | $0.569^{+0.119}_{-0.072}^{+0.013}_{-0.011}$ | | $0.597^{+0.081}_{-0.073}$ | | | |
| T'_{eq} (K) | 1328^{+17}_{-28} | | 1319^{+24}_{-23} | | | |
| Θ | $0.0431^{+0.0049}_{-0.0045}^{+0.0010}_{-0.0008}$ | | $0.0438^{+0.0042}_{-0.0042}$ | | | |
| a (AU) | $0.03647^{+0.00059}_{-0.00058}^{+0.00069}_{-0.00081}$ | 0.0369 ± 0.0002 | $0.03684^{+0.00040}_{-0.00043}$ | 0.0368 ± 0.0004 | | |
| Age (Gyr) | $1.9^{+4.5}_{-1.9}^{+4.7}_{-1.9}$ | | $5.8^{+2.8}_{-2.3}$ | 6.3 ± 2.4 | | |

Table A55. Parameters of the JKTEBOP best fits of the XO-3 z -band light curve from Winn et al. (2008c), using different approaches to LD. For each part of the table the upper quantities are fitted parameters and the lower quantities are derived parameters. T_0 is given as HJD – 2454000.0. The light curve contains 3732 datapoints.

| | Linear LD law | Quadratic LD law | Square-root LD law | Logarithmic LD law | Cubic LD law |
|---|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| Fitting for the linear LD coefficient and perturbing the nonlinear LD coefficient | | | | | |
| $r_A + r_b$ | 0.1564 ± 0.0047 | 0.1573 ± 0.0050 | 0.1565 ± 0.0049 | 0.1565 ± 0.0052 | 0.1565 ± 0.0047 |
| k | 0.09216 ± 0.00064 | 0.09137 ± 0.00065 | 0.09165 ± 0.00066 | 0.09142 ± 0.00068 | 0.09178 ± 0.00067 |
| i (deg.) | 84.01 ± 0.38 | 83.95 ± 0.39 | 84.02 ± 0.39 | 84.02 ± 0.40 | 84.01 ± 0.37 |
| u_A | 0.437 ± 0.058 | 0.191 ± 0.084 | 0.095 ± 0.074 | 0.562 ± 0.072 | 0.384 ± 0.067 |
| v_A | | 0.30 perturbed | 0.52 perturbed | 0.26 perturbed | 0.10 perturbed |
| T_0 | 449.86959 ± 0.00030 | 449.86962 ± 0.00030 | 449.86957 ± 0.00031 | 449.86958 ± 0.00032 | 449.86957 ± 0.00028 |
| r_A | 0.1432 ± 0.0042 | 0.1442 ± 0.0045 | 0.1434 ± 0.0045 | 0.1434 ± 0.0047 | 0.1434 ± 0.0042 |
| r_b | 0.01320 ± 0.00046 | 0.01317 ± 0.00048 | 0.01314 ± 0.00048 | 0.01311 ± 0.00049 | 0.01316 ± 0.00046 |
| σ (mmag) | 2.1723 | 2.1725 | 2.1724 | 2.1724 | 2.1724 |
| Fitting for both LD coefficients | | | | | |
| $r_A + r_b$ | 0.1564 ± 0.0046 | 0.1561 ± 0.0046 | 0.1560 ± 0.0047 | 0.1566 ± 0.0045 | 0.1564 ± 0.0046 |
| k | 0.09216 ± 0.00066 | 0.09246 ± 0.00264 | 0.09235 ± 0.00234 | 0.09266 ± 0.00257 | 0.09245 ± 0.00251 |
| i (deg.) | 84.01 ± 0.36 | 84.03 ± 0.37 | 84.03 ± 0.40 | 83.97 ± 0.36 | 84.00 ± 0.40 |
| u_A | 0.437 ± 0.057 | 0.53 ± 0.56 | 0.57 ± 1.36 | 0.36 ± 0.36 | 0.47 ± 0.29 |
| v_A | | -0.11 ± 0.72 | -0.20 ± 2.08 | -0.16 ± 0.79 | -0.07 ± 0.56 |
| T_0 | 449.86959 ± 0.00030 | 449.86958 ± 0.00029 | 449.86958 ± 0.00030 | 449.86962 ± 0.00031 | 449.86959 ± 0.00031 |
| r_A | 0.1432 ± 0.0042 | 0.1429 ± 0.0041 | 0.1428 ± 0.0042 | 0.1433 ± 0.0040 | 0.1431 ± 0.0042 |
| r_b | 0.01320 ± 0.00045 | 0.01321 ± 0.00059 | 0.01318 ± 0.00056 | 0.01328 ± 0.00059 | 0.01323 ± 0.00060 |
| σ (mmag) | 2.1723 | 2.1723 | 2.1723 | 2.1723 | 2.1723 |

Table A56. Parameters of the JKTEBOP best fits of the XO-3 r -band light curve from Winn et al. (2009b), using different approaches to LD. For each part of the table the upper quantities are fitted parameters and the lower quantities are derived parameters. T_0 is given as HJD – 2454000.0. The light curve contains 661 datapoints.

| | Linear LD law | Quadratic LD law | Square-root LD law | Logarithmic LD law | Cubic LD law |
|---|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| Fitting for the linear LD coefficient and perturbing the nonlinear LD coefficient | | | | | |
| $r_A + r_b$ | 0.126 ± 0.013 | 0.117 ± 0.013 | 0.126 ± 0.012 | 0.121 ± 0.011 | 0.125 ± 0.013 |
| k | 0.0868 ± 0.0036 | 0.0829 ± 0.0039 | 0.0860 ± 0.0034 | 0.0843 ± 0.0036 | 0.0860 ± 0.0038 |
| i (deg.) | 87.0 ± 1.7 | 88.6 ± 2.0 | 87.1 ± 1.7 | 87.8 ± 1.9 | 87.2 ± 1.9 |
| u_A | 0.74 ± 0.10 | 0.64 ± 0.14 | 0.42 ± 0.12 | 0.96 ± 0.13 | 0.72 ± 0.10 |
| v_A | | 0.30 perturbed | 0.55 perturbed | 0.28 perturbed | 0.10 perturbed |
| T_0 | 864.76566 ± 0.00061 | 864.76526 ± 0.00069 | 864.76560 ± 0.00059 | 864.76543 ± 0.00064 | 864.76559 ± 0.00062 |
| r_A | 0.116 ± 0.011 | 0.108 ± 0.011 | 0.116 ± 0.011 | 0.112 ± 0.010 | 0.115 ± 0.012 |
| r_b | 0.0101 ± 0.0014 | 0.0090 ± 0.0014 | 0.0099 ± 0.0013 | 0.0094 ± 0.0013 | 0.0099 ± 0.0014 |
| σ (mmag) | 2.1666 | 2.1670 | 2.1664 | 2.1667 | 2.1664 |
| χ^2_{red} | 0.9996 | 1.0000 | 0.9995 | 0.9997 | 0.9995 |
| Fitting for both LD coefficients | | | | | |
| $r_A + r_b$ | 0.126 ± 0.012 | 0.126 ± 0.011 | 0.147 ± 0.015 | 0.152 ± 0.015 | 0.136 ± 0.014 |
| k | 0.0868 ± 0.0037 | 0.0769 ± 0.0043 | 0.0837 ± 0.0035 | 0.0832 ± 0.0033 | 0.0815 ± 0.0041 |
| i (deg.) | 87.0 ± 1.8 | 88.4 ± 1.8 | 85.6 ± 1.4 | 85.3 ± 1.4 | 86.7 ± 1.7 |
| u_A | 0.74 ± 0.10 | 0.55 ± 0.30 | -1.66 ± 1.09 | 2.13 ± 0.42 | 0.68 ± 0.22 |
| v_A | | 1.07 ± 0.63 | 4.30 ± 1.71 | 1.79 ± 0.81 | 0.99 ± 0.56 |
| T_0 | 864.76566 ± 0.00062 | 864.76521 ± 0.00059 | 864.76606 ± 0.00074 | 864.76620 ± 0.00072 | 864.76565 ± 0.00067 |
| r_A | 0.1160 ± 0.0112 | 0.1173 ± 0.0097 | 0.1354 ± 0.0132 | 0.1404 ± 0.0136 | 0.1257 ± 0.0129 |
| r_b | 0.0101 ± 0.0014 | 0.0090 ± 0.0010 | 0.0113 ± 0.0015 | 0.0117 ± 0.0015 | 0.0102 ± 0.0015 |
| σ (mmag) | 2.1666 | 2.1662 | 2.1671 | 2.1676 | 2.1665 |
| χ^2_{red} | 0.9996 | 1.0007 | 1.0016 | 1.0021 | 1.0010 |

Table A57. Parameters of the JKTEBOP best fits of the XO-3 *I*-band light curve from Winn et al. (2009b), using different approaches to LD. For each part of the table the upper quantities are fitted parameters and the lower quantities are derived parameters. T_0 is given as HJD – 2454000.0. The light curve contains 747 datapoints.

| | Linear LD law | Quadratic LD law | Square-root LD law | Logarithmic LD law | Cubic LD law |
|---|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| Fitting for the linear LD coefficient and perturbing the nonlinear LD coefficient | | | | | |
| $r_A + r_B$ | 0.1623 ± 0.0087 | 0.1616 ± 0.0089 | 0.1609 ± 0.0089 | 0.1615 ± 0.0090 | 0.1619 ± 0.0086 |
| k | 0.0900 ± 0.0012 | 0.0891 ± 0.0012 | 0.0894 ± 0.0012 | 0.0892 ± 0.0011 | 0.0896 ± 0.0013 |
| i (deg.) | 83.41 ± 0.66 | 83.47 ± 0.67 | 83.53 ± 0.68 | 83.48 ± 0.70 | 83.45 ± 0.66 |
| u_A | 0.26 ± 0.15 | 0.00 ± 0.19 | -0.13 ± 0.17 | 0.37 ± 0.18 | 0.20 ± 0.17 |
| v_A | | 0.30 perturbed | 0.60 perturbed | 0.28 perturbed | 0.10 perturbed |
| T_0 | 864.76836 ± 0.00058 | 864.76833 ± 0.00063 | 864.76829 ± 0.00059 | 864.76832 ± 0.00061 | 864.76832 ± 0.00059 |
| r_A | 0.1489 ± 0.0079 | 0.1483 ± 0.0082 | 0.1477 ± 0.0082 | 0.1482 ± 0.0084 | 0.1486 ± 0.0079 |
| r_B | 0.01340 ± 0.00074 | 0.01322 ± 0.00076 | 0.01321 ± 0.00076 | 0.01322 ± 0.00078 | 0.01331 ± 0.00076 |
| σ (mmag) | 2.0543 | 2.0539 | 2.0541 | 2.0540 | 2.0541 |
| χ^2_{red} | 0.9947 | 0.9944 | 0.9945 | 0.9944 | 0.9945 |
| Fitting for both LD coefficients | | | | | |
| $r_A + r_B$ | 0.1623 ± 0.0087 | 0.1794 ± 0.0076 | 0.1748 ± 0.0119 | 0.1623 ± 0.0115 | 0.1758 ± 0.0131 |
| k | 0.0900 ± 0.0012 | 0.0724 ± 0.0016 | 0.0797 ± 0.0025 | 0.0813 ± 0.0027 | 0.0784 ± 0.0032 |
| i (deg.) | 83.41 ± 0.65 | 82.79 ± 0.46 | 83.11 ± 0.84 | 83.99 ± 0.85 | 83.10 ± 0.93 |
| u_A | 0.26 ± 0.15 | -35.8 ± 7.7 | -10.5 ± 5.5 | 2.9 ± 0.9 | -2.1 ± 2.0 |
| v_A | | 47.0 ± 10.0 | 17.0 ± 7.8 | 4.5 ± 2.2 | 5.4 ± 3.2 |
| T_0 | 864.76836 ± 0.00058 | 864.76872 ± 0.00051 | 864.76853 ± 0.00067 | 864.76802 ± 0.00071 | 864.76852 ± 0.00072 |
| r_A | 0.1489 ± 0.0080 | 0.1673 ± 0.0072 | 0.1619 ± 0.0114 | 0.1501 ± 0.0110 | 0.1630 ± 0.0126 |
| r_B | 0.01340 ± 0.00075 | 0.01211 ± 0.00048 | 0.01290 ± 0.00064 | 0.01220 ± 0.00080 | 0.01279 ± 0.00068 |
| σ (mmag) | 2.0543 | 2.0493 | 2.0495 | 2.0508 | 2.0495 |
| χ^2_{red} | 0.9947 | 0.9913 | 0.9916 | 0.9927 | 0.9915 |

Table A58. Final parameters of the fits to the z , r and I band light curves of XO-3, compared to literature studies.

| | This work (z) | This work (r) | This work (I) | This work (final) | Johns-Krull et al. (2008) | Winn et al. (2008c) | Hébrard et al. (2008) |
|-------------|-----------------------|---------------------|-----------------------|--------------------------|---------------------------|-----------------------|-----------------------|
| $r_A + r_B$ | 0.1567 ± 0.0057 | 0.122 ± 0.014 | 0.161 ± 0.010 | 0.1578 ± 0.0050 | 0.228 | 0.1468 | |
| k | 0.09155 ± 0.00075 | 0.0849 ± 0.0043 | 0.0893 ± 0.0014 | 0.09106 ± 0.00066 | 0.0940 | 0.09057 ± 0.00057 | |
| i (°) | 84.00 ± 0.45 | 87.6 ± 2.2 | 83.48 ± 0.84 | 83.89 ± 0.40 | 79.32 ± 1.36 | 84.20 ± 0.54 | 82.5 ± 1.5 |
| r_A | 0.1436 ± 0.0052 | 0.113 ± 0.013 | 0.1482 ± 0.0096 | 0.1447 ± 0.0046 | 0.208 | 0.1414 ± 0.0062 | |
| r_B | 0.01314 ± 0.00055 | 0.0096 ± 0.0015 | 0.01324 ± 0.00092 | 0.01317 ± 0.00047 | 0.0196 | 0.01222 | |

Table A59. Derived physical properties of the XO-3 system. The upper part of the table contains the individual results from this work; in each case $g_b = 188 \pm 13 \text{ m s}^{-2}$, $\rho_A = 0.432 \pm 0.041 \rho_\odot$ and $T'_{\text{eq}} = 1729 \pm 34 \text{ K}$. The lower part of the table contains the final results and a comparison to published measurements.

| | This work (Mass-radius) | This work (Claret models) | This work (Y^2 models) | This work (Teramo models) | This work (VRSS models) | This work (DSEP models) |
|----------------------------------|-----------------------------------|------------------------------|------------------------------|------------------------------|----------------------------|----------------------------|
| K_b (km s^{-1}) | 169.8 ± 4.4 | 159.7 ± 2.0 | 159.9 ± 1.7 | 158.6 ± 1.6 | 164.3 ± 1.8 | 157.2 ± 1.7 |
| M_A (M_\odot) | 1.472 ± 0.113 | 1.224 ± 0.046 | 1.229 ± 0.038 | 1.200 ± 0.037 | 1.333 ± 0.043 | 1.170 ± 0.036 |
| R_A (R_\odot) | 1.505 ± 0.078 | 1.416 ± 0.054 | 1.418 ± 0.053 | 1.406 ± 0.053 | 1.456 ± 0.054 | 1.395 ± 0.051 |
| $\log g_A$ (cgs) | 4.251 ± 0.022 | 4.224 ± 0.026 | 4.224 ± 0.026 | 4.221 ± 0.026 | 4.236 ± 0.026 | 4.217 ± 0.027 |
| M_b (M_{Jup}) | 13.50 ± 0.70 | 11.95 ± 0.31 | 11.98 ± 0.26 | 11.79 ± 0.25 | 12.64 ± 0.29 | 11.59 ± 0.25 |
| R_b (R_{Jup}) | 1.334 ± 0.059 | 1.255 ± 0.047 | 1.256 ± 0.047 | 1.246 ± 0.046 | 1.290 ± 0.048 | 1.236 ± 0.046 |
| ρ_b (ρ_{Jup}) | 5.69 ± 0.63 | 6.05 ± 0.66 | 6.04 ± 0.65 | 6.09 ± 0.66 | 5.88 ± 0.64 | 6.14 ± 0.67 |
| Θ | 0.665 ± 0.030 | 0.708 ± 0.027 | 0.707 ± 0.027 | 0.713 ± 0.027 | 0.688 ± 0.026 | 0.719 ± 0.027 |
| a (AU) | 0.04839 ± 0.00124 | 0.04552 ± 0.00057 | 0.04558 ± 0.00047 | 0.04522 ± 0.00046 | 0.04682 ± 0.00051 | 0.04484 ± 0.00046 |
| Age (Gyr) | | $3.0^{+0.9}_{-0.5}$ | $2.8^{+0.6}_{-0.4}$ | $3.0^{+0.3}_{-0.6}$ | $2.6^{+0.6}_{-0.4}$ | $3.5^{+0.6}_{-0.4}$ |
| <hr/> | | | | | | |
| | This work (final) | Johns-Krull et al. (2008) | Winn et al. (2008c) | Hébrard et al. (2008) | | |
| M_A (M_\odot) | $1.206 \pm 0.046 \pm 0.036$ | 1.41 ± 0.08 | 1.213 ± 0.066 | 1.3 ± 0.2 | | |
| R_A (R_\odot) | $1.409 \pm 0.054 \pm 0.014$ | 2.13 ± 0.21 | 1.377 ± 0.083 | 1.6 ± 0.2 | | |
| $\log g_A$ (cgs) | $4.222 \pm 0.027 \pm 0.004$ | 3.95 ± 0.062 | 4.244 ± 0.041 | | | |
| ρ_A (ρ_\odot) | 0.431 ± 0.041 | | 0.461 ± 0.061 | | | |
| M_b (M_{Jup}) | $11.83 \pm 0.31 \pm 0.23$ | 13.25 ± 0.62 | 11.79 ± 0.59 | 12.5 ± 1.9 | | |
| R_b (R_{Jup}) | $1.248 \pm 0.047 \pm 0.012$ | 1.95 ± 0.16 | 1.217 ± 0.073 | 1.5 ± 0.2 | | |
| g_b (m s^{-1}) | 188 ± 13 | | 197 ± 19 | | | |
| ρ_b (ρ_{Jup}) | $6.08 \pm 0.67 \pm 0.06$ | | $6.5^{+1.4}_{-1.0}$ | | | |
| T'_{eq} (K) | 1729 ± 34 | | 1710 ± 46 | | | |
| Θ | $0.711 \pm 0.027 \pm 0.007$ | | | | | |
| a (AU) | $0.04529 \pm 0.00057 \pm 0.00045$ | 0.0476 ± 0.0005 | 0.0454 ± 0.00082 | | | |
| Age (Gyr) | $3.0^{+0.9}_{-0.6} \pm 0.5$ | 2.69 ± 0.15 | | | | |

Table A60. Parameters of the JKTEBOP best fits of the XO-4 R -band light curve from McCullough et al. (2008), using different approaches to LD. For each part of the table the upper quantities are fitted parameters and the lower quantities are derived parameters. T_0 is given as HJD – 2454000.0. The light curve contains 2448 datapoints.

| | Linear LD law | Quadratic LD law | Square-root LD law | Logarithmic LD law | Cubic LD law |
|---|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|
| Fitting for the linear LD coefficient and perturbing the nonlinear LD coefficient | | | | | |
| $r_A + r_b$ | $0.1400^{+0.0258}_{-0.0046}$ | $0.1418^{+0.0229}_{-0.0057}$ | $0.1410^{+0.0237}_{-0.0050}$ | $0.1415^{+0.0238}_{-0.0049}$ | $0.1406^{+0.0232}_{-0.0051}$ |
| k | $0.0872^{+0.0030}_{-0.0016}$ | $0.0862^{+0.0038}_{-0.0022}$ | $0.0866^{+0.0033}_{-0.0017}$ | $0.0863^{+0.0035}_{-0.0018}$ | $0.0868^{+0.0032}_{-0.0019}$ |
| i (deg.) | $89.9^{+0.1}_{-3.1}$ | $89.9^{+0.1}_{-3.0}$ | $90.0^{+0.0}_{-2.9}$ | $89.9^{+0.1}_{-3.2}$ | $89.9^{+0.1}_{-2.9}$ |
| u_A | $0.759^{+0.054}_{-0.056}$ | $0.635^{+0.091}_{-0.085}$ | $0.452^{+0.078}_{-0.067}$ | $0.985^{+0.087}_{-0.093}$ | $0.743^{+0.063}_{-0.059}$ |
| v_A | | 0.32 perturbed | 0.55 perturbed | 0.29 perturbed | 0.10 perturbed |
| T_0 | $485.93237^{+0.00035}_{-0.00042}$ | $485.93222^{+0.00037}_{-0.00042}$ | $485.93230^{+0.00040}_{-0.00038}$ | $485.93226^{+0.00037}_{-0.00036}$ | $485.93232^{+0.00040}_{-0.00040}$ |
| r_A | $0.1288^{+0.0212}_{-0.0040}$ | $0.1306^{+0.0199}_{-0.0051}$ | $0.1297^{+0.0192}_{-0.0043}$ | $0.1302^{+0.0198}_{-0.0042}$ | $0.1294^{+0.0196}_{-0.0045}$ |
| r_b | $0.01123^{+0.00214}_{-0.00043}$ | $0.01125^{+0.00211}_{-0.00054}$ | $0.01124^{+0.00202}_{-0.00045}$ | $0.01124^{+0.00227}_{-0.00052}$ | $0.01123^{+0.00215}_{-0.00047}$ |
| σ (mmag) | 2.7587 | 2.7574 | 2.7580 | 2.7577 | 2.7581 |
| Fitting for both LD coefficients | | | | | |
| $r_A + r_b$ | $0.1400^{+0.0268}_{-0.0045}$ | $0.1423^{+0.0279}_{-0.0090}$ | $0.1513^{+0.0096}_{-0.0032}$ | $0.1871^{+0.0077}_{-0.0091}$ | $0.1879^{+0.0079}_{-0.0080}$ |
| k | $0.0872^{+0.0029}_{-0.0016}$ | $0.0859^{+0.0050}_{-0.0045}$ | $0.0811^{+0.0031}_{-0.0019}$ | $0.0837^{+0.0014}_{-0.0017}$ | $0.0839^{+0.0016}_{-0.0017}$ |
| i (deg.) | $89.93^{+0.03}_{-2.98}$ | $89.97^{+0.03}_{-6.25}$ | $88.69^{+1.19}_{-1.98}$ | $84.49^{+0.81}_{-0.66}$ | $84.44^{+0.74}_{-0.67}$ |
| u_A | $0.76^{+0.06}_{-0.06}$ | $0.62^{+0.50}_{-0.22}$ | $-1.02^{+0.49}_{-0.39}$ | $2.45^{+0.22}_{-0.20}$ | $0.60^{+0.12}_{-0.16}$ |
| v_A | | $0.38^{+1.09}_{-0.49}$ | $3.45^{+0.68}_{-0.86}$ | $2.15^{+0.45}_{-0.36}$ | $1.55^{+0.28}_{-0.24}$ |
| T_0 | $485.93237^{+0.00038}_{-0.00039}$ | $485.93219^{+0.00043}_{-0.00044}$ | $485.93226^{+0.00035}_{-0.00032}$ | $485.93202^{+0.00034}_{-0.00033}$ | $485.93201^{+0.00034}_{-0.00035}$ |
| r_A | $0.1288^{+0.0233}_{-0.0039}$ | $0.1310^{+0.0223}_{-0.0080}$ | $0.1399^{+0.0084}_{-0.0031}$ | $0.1727^{+0.0070}_{-0.0083}$ | $0.1734^{+0.0073}_{-0.0073}$ |
| r_b | $0.01123^{+0.00205}_{-0.00042}$ | $0.01125^{+0.00290}_{-0.00063}$ | $0.01135^{+0.00108}_{-0.00026}$ | $0.01445^{+0.00068}_{-0.00085}$ | $0.01455^{+0.00075}_{-0.00080}$ |
| σ (mmag) | 2.7587 | 2.7574 | 2.7546 | 2.7494 | 2.7494 |

Table A61. Final parameters of the fits to the *R*-band light curve of XO-4, compared to McCullough et al. (2008).

| | This work | McCullough et al. (2008) |
|------------------|---------------------------------|--------------------------|
| $r_A + r_b$ | $0.1412^{+0.0333}_{-0.0057}$ | 0.1415 |
| k | $0.0865^{+0.0052}_{-0.0025}$ | 0.089 ± 0.001 |
| i ($^\circ$) | $89.9^{+0.1}_{-3.9}$ | 88.7 ± 1.1 |
| r_A | $0.1300^{+0.0283}_{-0.0051}$ | 0.1299 |
| r_b | $0.01124^{+0.00334}_{-0.00054}$ | 0.01154 |

Table A62. Derived physical properties of the XO-4 system. The upper part of the table contains the individual results from this work; in each case $g_b = 22.8^{+3.2}_{-9.5} \text{ m s}^{-2}$, $\rho_A = 0.359^{+0.046}_{-0.160} \rho_\odot$ and $T'_{\text{eq}} = 1630^{+169}_{-36} \text{ K}$. The lower part of the table contains the final results and a comparison to the measurements of McCullough et al. (2008).

| | This work (Mass-radius) | This work (<i>Claret</i> models) | This work (Y^2 models) | This work (<i>Teramo</i> models) | This work (<i>VRSS</i> models) | This work (<i>DSEP</i> models) |
|----------------------------------|--|--------------------------------------|---------------------------------|--------------------------------------|------------------------------------|------------------------------------|
| K_b (km s^{-1}) | $155.6^{+16.5}_{-4.3}$ | $144.8^{+1.9}_{-1.3}$ | $144.5^{+2.5}_{-1.3}$ | $144.1^{+1.2}_{-1.4}$ | $144.4^{+1.4}_{-1.3}$ | $143.3^{+2.0}_{-1.3}$ |
| M_A (M_\odot) | $1.614^{+0.567}_{-0.132}$ | $1.301^{+0.052}_{-0.034}$ | $1.292^{+0.068}_{-0.032}$ | $1.281^{+0.033}_{-0.036}$ | $1.291^{+0.037}_{-0.033}$ | $1.261^{+0.054}_{-0.032}$ |
| R_A (R_\odot) | $1.651^{+0.569}_{-0.101}$ | $1.536^{+0.355}_{-0.069}$ | $1.532^{+0.362}_{-0.066}$ | $1.528^{+0.342}_{-0.066}$ | $1.532^{+0.350}_{-0.066}$ | $1.520^{+0.350}_{-0.065}$ |
| $\log g_A$ (cgs) | $4.211^{+0.027}_{-0.128}$ | $4.179^{+0.033}_{-0.166}$ | $4.178^{+0.034}_{-0.165}$ | $4.177^{+0.033}_{-0.169}$ | $4.178^{+0.033}_{-0.167}$ | $4.175^{+0.034}_{-0.167}$ |
| M_b (M_{Jup}) | $1.77^{+0.43}_{-0.438}$ | $1.53^{+0.16}_{-0.15}$ | $1.53^{+0.16}_{-0.15}$ | $1.52^{+0.15}_{-0.15}$ | $1.53^{+0.15}_{-0.15}$ | $1.50^{+0.15}_{-0.15}$ |
| R_b (R_{Jup}) | $1.389^{+0.438}_{-0.077}$ | $1.293^{+0.385}_{-0.063}$ | $1.290^{+0.384}_{-0.063}$ | $1.286^{+0.382}_{-0.063}$ | $1.290^{+0.384}_{-0.063}$ | $1.279^{+0.381}_{-0.062}$ |
| ρ_b (ρ_{Jup}) | $0.66^{+0.12}_{-0.37}$ | $0.71^{+0.13}_{-0.39}$ | $0.71^{+0.13}_{-0.39}$ | $0.71^{+0.13}_{-0.39}$ | $0.71^{+0.13}_{-0.39}$ | $0.72^{+0.13}_{-0.39}$ |
| Θ | $0.093^{+0.011}_{-0.025}$ | $0.100^{+0.011}_{-0.025}$ | $0.100^{+0.011}_{-0.025}$ | $0.101^{+0.011}_{-0.025}$ | $0.100^{+0.011}_{-0.025}$ | $0.101^{+0.011}_{-0.025}$ |
| a (AU) | $0.05907^{+0.00625}_{-0.00164}$ | $0.05497^{+0.00073}_{-0.00049}$ | $0.05484^{+0.00094}_{-0.00046}$ | $0.05469^{+0.00047}_{-0.00051}$ | $0.05483^{+0.00052}_{-0.00047}$ | $0.05440^{+0.00076}_{-0.00046}$ |
| Age (Gyr) | | $2.8^{+0.3}_{-0.4}$ | $2.7^{+0.4}_{-0.2}$ | $2.6^{+0.3}_{-0.5}$ | $2.4^{+0.6}_{-0.2}$ | $2.9^{+0.5}_{-0.3}$ |
| | This work (final) | McCullough et al. (2008) | | | | |
| M_A (M_\odot) | $1.285^{+0.068}_{-0.036} {}^{+0.016}_{-0.024}$ | 1.32 ± 0.02 | | | | |
| R_A (R_\odot) | $1.530^{+0.362}_{-0.069} {}^{+0.006}_{-0.010}$ | 1.55 ± 0.05 | | | | |
| $\log g_A$ (cgs) | $4.178^{+0.034}_{-0.169} {}^{+0.002}_{-0.003}$ | 4.18 ± 0.07 | | | | |
| ρ_A (ρ_\odot) | $0.359^{+0.046}_{-0.160}$ | | | | | |
| M_b (M_{Jup}) | $1.52^{+0.16}_{-0.15} {}^{+0.01}_{-0.02}$ | 1.72 ± 0.20 | | | | |
| R_b (R_{Jup}) | $1.288^{+0.385}_{-0.063} {}^{+0.005}_{-0.008}$ | 1.34 ± 0.048 | | | | |
| g_b (m s^{-1}) | $22.8^{+3.2}_{-9.5}$ | | | | | |
| ρ_b (ρ_{Jup}) | $0.71^{+0.13}_{-0.39} {}^{+0.00}_{-0.00}$ | | | | | |
| T'_{eq} (K) | 1630^{+169}_{-36} | | | | | |
| Θ | $0.101^{+0.011}_{-0.025} {}^{+0.001}_{-0.000}$ | | | | | |
| a (AU) | $0.05475^{+0.00094}_{-0.00051} {}^{+0.00022}_{-0.00035}$ | 0.0555 ± 0.0011 | | | | |
| Age (Gyr) | $2.7^{+0.6}_{-0.5} {}^{+0.2}_{-0.3}$ | 2.1 ± 0.6 | | | | |

Table A63. Parameters of the JKTEBOP best fits of the XO-5 *R*-band light curve from Burke et al. (2008), using different approaches to LD. For each part of the table the upper quantities are fitted parameters and the lower quantities are derived parameters. T_0 is given as HJD – 2454000.0. The light curve contains 341 datapoints.

| | Linear LD law | Quadratic LD law | Square-root LD law | Logarithmic LD law | Cubic LD law |
|---|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| Fitting for the linear LD coefficient and perturbing the nonlinear LD coefficient | | | | | |
| $r_A + r_b$ | 0.1147 ± 0.0067 | 0.1146 ± 0.0078 | 0.1148 ± 0.0074 | 0.1148 ± 0.0078 | 0.1148 ± 0.0070 |
| k | 0.1126 ± 0.0022 | 0.1119 ± 0.0024 | 0.1122 ± 0.0024 | 0.1120 ± 0.0025 | 0.1123 ± 0.0022 |
| i (deg.) | 86.54 ± 0.62 | 86.57 ± 0.72 | 86.55 ± 0.69 | 86.56 ± 0.73 | 86.54 ± 0.66 |
| u_A | 0.47 ± 0.09 | 0.32 ± 0.12 | 0.17 ± 0.11 | 0.60 ± 0.12 | 0.43 ± 0.10 |
| v_A | | 0.23 perturbed | 0.48 perturbed | 0.22 perturbed | 0.10 perturbed |
| T_0 | 485.66629 ± 0.00040 | 485.66630 ± 0.00040 | 485.66629 ± 0.00039 | 485.66629 ± 0.00041 | 485.66629 ± 0.00043 |
| r_A | 0.1031 ± 0.0059 | 0.1031 ± 0.0068 | 0.1033 ± 0.0064 | 0.1032 ± 0.0067 | 0.1032 ± 0.0062 |
| r_b | 0.01161 ± 0.00083 | 0.01154 ± 0.00098 | 0.01158 ± 0.00095 | 0.01156 ± 0.00099 | 0.01159 ± 0.00087 |
| σ (mmag) | 2.4792 | 2.4785 | 2.4790 | 2.4788 | 2.4790 |
| χ^2_{red} | 1.1842 | 1.1835 | 1.1840 | 1.1839 | 1.1840 |
| Fitting for both LD coefficients | | | | | |
| $r_A + r_b$ | 0.1147 ± 0.0068 | 0.1132 ± 0.0088 | 0.1160 ± 0.0095 | 0.1156 ± 0.0105 | 0.1142 ± 0.0082 |
| k | 0.1126 ± 0.0021 | 0.1099 ± 0.0060 | 0.1055 ± 0.0057 | 0.1052 ± 0.0058 | 0.1110 ± 0.0060 |
| i (deg.) | 86.54 ± 0.63 | 86.79 ± 0.88 | 86.88 ± 0.86 | 86.93 ± 0.95 | 86.67 ± 0.75 |
| u_A | 0.47 ± 0.09 | 0.02 ± 0.67 | -2.62 ± 2.32 | 1.88 ± 1.12 | 0.34 ± 0.31 |
| v_A | | 0.8 ± 1.3 | 5.3 ± 3.9 | 2.0 ± 1.6 | 0.4 ± 1.1 |
| T_0 | 485.66629 ± 0.00041 | 485.66632 ± 0.00041 | 485.66637 ± 0.00041 | 485.66637 ± 0.00039 | 485.66631 ± 0.00040 |
| r_A | 0.1031 ± 0.0060 | 0.1020 ± 0.0075 | 0.1049 ± 0.0085 | 0.1046 ± 0.0096 | 0.1028 ± 0.0071 |
| r_b | 0.01161 ± 0.00086 | 0.01121 ± 0.00112 | 0.01106 ± 0.00108 | 0.01101 ± 0.00119 | 0.01140 ± 0.00104 |
| σ (mmag) | 2.4792 | 2.4778 | 2.4769 | 2.4774 | 2.4788 |
| χ^2_{red} | 1.1842 | 1.1865 | 1.1856 | 1.1861 | 1.1874 |

Table A64. Parameters of the JKTEBOP best fits of the XO-5 *i*-band light curve from Pál et al. (2009), using different approaches to LD. For each part of the table the upper quantities are fitted parameters and the lower quantities are derived parameters. T_0 is given as HJD – 2454000.0. The light curve contains 789 datapoints.

| | Linear LD law | Quadratic LD law | Square-root LD law | Logarithmic LD law | Cubic LD law |
|---|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| Fitting for the linear LD coefficient and perturbing the nonlinear LD coefficient | | | | | |
| $r_A + r_b$ | 0.1089 ± 0.0038 | 0.1080 ± 0.0045 | 0.1083 ± 0.0038 | 0.1080 ± 0.0042 | 0.1084 ± 0.0037 |
| k | 0.1031 ± 0.0011 | 0.1019 ± 0.0014 | 0.1024 ± 0.0012 | 0.1021 ± 0.0013 | 0.1026 ± 0.0012 |
| i (deg.) | 87.20 ± 0.41 | 87.38 ± 0.53 | 87.31 ± 0.44 | 87.37 ± 0.46 | 87.29 ± 0.42 |
| u_A | 0.542 ± 0.036 | 0.384 ± 0.054 | 0.235 ± 0.055 | 0.712 ± 0.059 | 0.515 ± 0.041 |
| v_A | | 0.29 perturbed | 0.52 perturbed | 0.25 perturbed | 0.10 perturbed |
| T_0 | 552.67152 ± 0.00022 | 552.67154 ± 0.00022 | 552.67153 ± 0.00023 | 552.67153 ± 0.00023 | 552.67154 ± 0.00024 |
| r_A | 0.0988 ± 0.0034 | 0.0980 ± 0.0039 | 0.0983 ± 0.0034 | 0.0980 ± 0.0037 | 0.0983 ± 0.0033 |
| r_b | 0.01019 ± 0.00045 | 0.00999 ± 0.00053 | 0.01006 ± 0.00045 | 0.01000 ± 0.00048 | 0.01008 ± 0.00044 |
| σ (mmag) | 1.7696 | 1.7731 | 1.7711 | 1.7719 | 1.7707 |
| χ^2_{red} | 2.0003 | 2.0097 | 2.0042 | 2.0064 | 2.0034 |
| Fitting for both LD coefficients | | | | | |
| $r_A + r_b$ | 0.1089 ± 0.0037 | 0.1119 ± 0.0027 | 0.1114 ± 0.0026 | 0.1117 ± 0.0026 | 0.1119 ± 0.0025 |
| k | 0.1031 ± 0.0011 | 0.1073 ± 0.0015 | 0.1072 ± 0.0014 | 0.1073 ± 0.0015 | 0.1072 ± 0.0014 |
| i (deg.) | 87.20 ± 0.40 | 86.73 ± 0.26 | 86.74 ± 0.25 | 86.72 ± 0.24 | 86.71 ± 0.24 |
| u_A | 0.542 ± 0.036 | 1.258 ± 0.205 | 2.679 ± 0.560 | -0.154 ± 0.150 | 0.891 ± 0.113 |
| v_A | | -1.09 ± 0.28 | -3.43 ± 0.87 | -1.21 ± 0.30 | -0.90 ± 0.24 |
| T_0 | 552.67152 ± 0.00022 | 552.67151 ± 0.00023 | 552.67151 ± 0.00023 | 552.67151 ± 0.00023 | 552.67151 ± 0.00022 |
| r_A | 0.0988 ± 0.0033 | 0.1010 ± 0.0023 | 0.1006 ± 0.0023 | 0.1009 ± 0.0022 | 0.1010 ± 0.0021 |
| r_b | 0.01019 ± 0.00044 | 0.01085 ± 0.00037 | 0.01079 ± 0.00035 | 0.01082 ± 0.00036 | 0.01083 ± 0.00034 |
| σ (mmag) | 1.7696 | 1.7630 | 1.7640 | 1.7636 | 1.7638 |
| χ^2_{red} | 2.0003 | 1.9849 | 1.9870 | 1.9861 | 1.9865 |

Table A65. Parameters of the JKTEBOP best fits of the XO-5 z -band light curve from Pál et al. (2009), using different approaches to LD. For each part of the table the upper quantities are fitted parameters and the lower quantities are derived parameters. T_0 is given as HJD $- 2454000.0$. The light curve contains 599 datapoints.

| | Linear LD law | Quadratic LD law | Square-root LD law | Logarithmic LD law | Cubic LD law |
|---|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| Fitting for the linear LD coefficient and perturbing the nonlinear LD coefficient | | | | | |
| $r_A + r_b$ | 0.1176 ± 0.0067 | 0.1168 ± 0.0073 | 0.1180 ± 0.0066 | 0.1175 ± 0.0067 | 0.1179 ± 0.0068 |
| k | 0.1105 ± 0.0023 | 0.1092 ± 0.0026 | 0.1100 ± 0.0022 | 0.1097 ± 0.0023 | 0.1102 ± 0.0024 |
| i (deg.) | 86.44 ± 0.62 | 86.56 ± 0.75 | 86.44 ± 0.62 | 86.48 ± 0.64 | 86.43 ± 0.65 |
| u_A | 0.60 ± 0.08 | 0.42 ± 0.10 | 0.27 ± 0.09 | 0.76 ± 0.10 | 0.56 ± 0.09 |
| v_A | | 0.30 perturbed | 0.54 perturbed | 0.26 perturbed | 0.10 perturbed |
| T_0 | 485.66937 ± 0.00035 | 485.66939 ± 0.00035 | 485.66939 ± 0.00034 | 485.66939 ± 0.00037 | 485.66938 ± 0.00032 |
| r_A | 0.1059 ± 0.0059 | 0.1053 ± 0.0065 | 0.1063 ± 0.0057 | 0.1059 ± 0.0058 | 0.1062 ± 0.0059 |
| r_b | 0.01170 ± 0.00084 | 0.01150 ± 0.00097 | 0.01169 ± 0.00087 | 0.01161 ± 0.00087 | 0.01170 ± 0.00089 |
| σ (mmag) | 2.5767 | 2.5736 | 2.5751 | 2.5744 | 2.5754 |
| χ^2_{red} | 2.0888 | 2.0841 | 2.0864 | 2.0854 | 2.0869 |
| Fitting for both LD coefficients | | | | | |
| $r_A + r_b$ | 0.1176 ± 0.0064 | 0.1211 ± 0.0097 | 0.1231 ± 0.0087 | 0.1218 ± 0.0093 | 0.1224 ± 0.0088 |
| k | 0.1105 ± 0.0022 | 0.1039 ± 0.0053 | 0.1062 ± 0.0047 | 0.1051 ± 0.0048 | 0.1055 ± 0.0053 |
| i (deg.) | 86.44 ± 0.61 | 86.52 ± 0.81 | 86.26 ± 0.66 | 86.42 ± 0.72 | 86.37 ± 0.69 |
| u_A | 0.60 ± 0.08 | -0.51 ± 0.95 | -2.20 ± 2.30 | 1.77 ± 1.00 | 0.22 ± 0.34 |
| v_A | | 2.0 ± 1.6 | 4.6 ± 3.9 | 1.8 ± 1.5 | 1.3 ± 1.1 |
| T_0 | 485.66937 ± 0.00036 | 485.66944 ± 0.00036 | 485.66941 ± 0.00036 | 485.66941 ± 0.00035 | 485.66942 ± 0.00034 |
| r_A | 0.1059 ± 0.0056 | 0.1097 ± 0.0089 | 0.1113 ± 0.0080 | 0.1102 ± 0.0086 | 0.1107 ± 0.0081 |
| r_b | 0.01170 ± 0.00084 | 0.01140 ± 0.00103 | 0.01182 ± 0.00095 | 0.01158 ± 0.00094 | 0.01168 ± 0.00096 |
| σ (mmag) | 2.5767 | 2.5680 | 2.5704 | 2.5695 | 2.5699 |
| χ^2_{red} | 2.0888 | 2.0790 | 2.0827 | 2.0814 | 2.0819 |

Table A66. Final parameters of the fits to the R , i and z band light curves of XO-5, compared to literature studies.

| | This work (R) | This work (i) | This work (z) | This work (final) | Burke et al. (2008) | Pál et al. (2009) |
|------------------|---------------------|-----------------------|---------------------|--------------------------|---------------------|---------------------|
| $r_A + r_b$ | 0.115 ± 0.013 | 0.1082 ± 0.0069 | 0.118 ± 0.015 | 0.1109 ± 0.0056 | 0.113 | 0.1143 |
| k | 0.1121 ± 0.0035 | 0.1023 ± 0.0024 | 0.1097 ± 0.0055 | 0.1058 ± 0.0045 | 0.106 ± 0.003 | 0.1050 ± 0.0009 |
| i ($^\circ$) | 86.6 ± 1.2 | 87.33 ± 0.82 | 86.5 ± 2.2 | 87.04 ± 0.65 | 86.9 ± 0.9 | 86.7 ± 0.4 |
| r_A | 0.103 ± 0.011 | 0.0982 ± 0.0061 | 0.106 ± 0.013 | 0.1004 ± 0.0049 | 0.102 ± 0.008 | 0.1034 ± 0.0037 |
| r_b | 0.0116 ± 0.0015 | 0.01004 ± 0.00082 | 0.0116 ± 0.0020 | 0.01054 ± 0.00073 | 0.0108 | 0.1086 |

Table A67. Derived physical properties of the XO-5 system. The upper part of the table contains the individual results from this work; in each case $g_b = 22.7 \pm 3.2 \text{ m s}^{-2}$, $\rho_A = 0.76 \pm 0.11 \rho_\odot$ and $T'_{\text{eq}} = 1203 \pm 33 \text{ K}$. The lower part of the table contains the final results and a comparison to published measurements.

| | This work (Mass-radius) | This work (<i>Claret</i> models) | This work (Y^2 models) | This work (<i>Teramo</i> models) | This work (<i>VRSS</i> models) | This work (<i>DSEP</i> models) |
|----------------------------------|--------------------------------|--------------------------------------|------------------------------|--------------------------------------|------------------------------------|------------------------------------|
| K_b (km s^{-1}) | 136.45 ± 4.55 | 128.04 ± 2.92 | 127.46 ± 0.89 | 128.06 ± 0.80 | 128.15 ± 0.53 | 129.58 ± 4.72 |
| M_A (M_\odot) | 1.109 ± 0.111 | 0.917 ± 0.064 | 0.904 ± 0.019 | 0.917 ± 0.017 | 0.919 ± 0.011 | 0.950 ± 0.100 |
| R_A (R_\odot) | 1.136 ± 0.087 | 1.066 ± 0.064 | 1.061 ± 0.057 | 1.066 ± 0.057 | 1.067 ± 0.055 | 1.079 ± 0.081 |
| $\log g_A$ (cgs) | 4.372 ± 0.033 | 4.344 ± 0.043 | 4.342 ± 0.041 | 4.345 ± 0.041 | 4.345 ± 0.041 | 4.350 ± 0.040 |
| M_b (M_{Jup}) | 1.234 ± 0.084 | 1.086 ± 0.055 | 1.077 ± 0.023 | 1.087 ± 0.020 | 1.088 ± 0.018 | 1.113 ± 0.083 |
| R_b (R_{Jup}) | 1.161 ± 0.089 | 1.090 ± 0.082 | 1.085 ± 0.076 | 1.090 ± 0.076 | 1.091 ± 0.076 | 1.103 ± 0.085 |
| ρ_b (ρ_{Jup}) | 0.79 ± 0.17 | 0.84 ± 0.18 | 0.84 ± 0.18 | 0.84 ± 0.18 | 0.84 ± 0.18 | 0.83 ± 0.18 |
| Θ | 0.1007 ± 0.0079 | 0.1074 ± 0.0082 | 0.1079 ± 0.0077 | 0.1074 ± 0.0076 | 0.1073 ± 0.0076 | 0.1061 ± 0.0089 |
| a (AU) | 0.05265 ± 0.00175 | 0.04941 ± 0.00112 | 0.04919 ± 0.00034 | 0.04942 ± 0.00031 | 0.04945 ± 0.00020 | 0.05000 ± 0.00181 |
| Age (Gyr) | | $12.8^{+0.3}_{-11.4}$ | $12.1^{+0.0}_{-2.9}$ | $12.0^{+0.1}_{-2.6}$ | $11.5^{+0.3}_{-0.0}$ | $9.7^{+11.9}_{-0.4}$ |
| | This work (final) | Burke et al. (2008) | Pál et al. (2009) | | | |
| M_A (M_\odot) | $0.914 \pm 0.064 \pm 0.010$ | 1.00 ± 0.03 | 0.88 ± 0.03 | | | |
| R_A (R_\odot) | $1.065 \pm 0.064 \pm 0.004$ | 1.11 ± 0.09 | 1.08 ± 0.04 | | | |
| $\log g_A$ (cgs) | $4.344 \pm 0.043 \pm 0.002$ | 4.34 ± 0.07 | 4.33 ± 0.04 | | | |
| ρ_A (ρ_\odot) | 0.76 ± 0.11 | 0.72 ± 0.14 | 0.88 ± 0.09 | | | |
| M_b (M_{Jup}) | $1.084 \pm 0.055 \pm 0.008$ | 1.15 ± 0.08 | 1.059 ± 0.028 | | | |
| R_b (R_{Jup}) | $1.089 \pm 0.082 \pm 0.004$ | 1.15 ± 0.12 | 1.109 ± 0.050 | | | |
| g_b (m s^{-1}) | 22.7 ± 3.2 | 22 ± 5 | 21.4 ± 2.0 | | | |
| ρ_b (ρ_{Jup}) | $0.84 \pm 0.18 \pm 0.00$ | 0.82 ± 0.24 | $0.68^{+0.10}_{-0.08}$ | | | |
| T'_{eq} (K) | 1203 ± 33 | 1244 ± 48 | 1221 ± 27 | | | |
| Θ | $0.1075 \pm 0.0082 \pm 0.0004$ | | 0.105 ± 0.005 | | | |
| a (AU) | $0.0494 \pm 0.0011 \pm 0.0002$ | 0.0508 ± 0.0005 | 0.0488 ± 0.0006 | | | |
| Age (Gyr) | unconstrained | 8.5 ± 0.8 | 14.8 ± 2.0 | | | |

Table A68. Derived physical properties of the GJ 436 system. The upper part of the table contains the individual results from this work; in each case $g_b = 13.7 \pm 1.1 \text{ m s}^{-2}$, $\rho_A = 4.92 \pm 0.55 \rho_\odot$ and $T'_{\text{eq}} = 669 \pm 22 \text{ K}$. The lower part of the table contains the final results and a comparison to published measurements.

| | This work (Mass-radius) | This work (<i>Claret</i> models) | This work (Y^2 models) | This work (<i>Teramo</i> models) | This work (<i>VRSS</i> models) | This work (<i>DSEP</i> models) |
|----------------------------------|-----------------------------------|--------------------------------------|---------------------------------|--------------------------------------|------------------------------------|------------------------------------|
| K_b (km s $^{-1}$) | 117.0 ± 5.5 | 125.6 ± 2.4 | 121.2 ± 1.8 | 119.8 ± 1.8 | 119.6 ± 3.7 | 118.3 ± 2.8 |
| M_A (M_\odot) | 0.429 ± 0.060 | 0.531 ± 0.031 | 0.476 ± 0.022 | 0.460 ± 0.021 | 0.457 ± 0.043 | 0.443 ± 0.031 |
| R_A (R_\odot) | 0.443 ± 0.031 | 0.476 ± 0.021 | 0.459 ± 0.020 | 0.454 ± 0.023 | 0.453 ± 0.029 | 0.448 ± 0.025 |
| $\log g_A$ (cgs) | 4.777 ± 0.030 | 4.808 ± 0.032 | 4.792 ± 0.030 | 4.787 ± 0.027 | 4.786 ± 0.024 | 4.781 ± 0.025 |
| M_b (M_{Jup}) | 0.0704 ± 0.0069 | 0.0811 ± 0.0039 | 0.0754 ± 0.0032 | 0.0738 ± 0.0031 | 0.0735 ± 0.0051 | 0.0719 ± 0.0039 |
| R_b (R_{Jup}) | 0.357 ± 0.022 | 0.384 ± 0.016 | 0.370 ± 0.015 | 0.366 ± 0.015 | 0.365 ± 0.018 | 0.361 ± 0.016 |
| ρ_b (ρ_{Jup}) | 1.54 ± 0.20 | 1.44 ± 0.17 | 1.49 ± 0.18 | 1.51 ± 0.18 | 1.51 ± 0.19 | 1.53 ± 0.18 |
| Θ | 0.0259 ± 0.0017 | 0.0241 ± 0.0012 | 0.0250 ± 0.0013 | 0.0253 ± 0.0013 | 0.0254 ± 0.0015 | 0.0256 ± 0.0014 |
| a (AU) | 0.02822 ± 0.00132 | 0.03029 ± 0.00059 | 0.02922 ± 0.00044 | 0.02889 ± 0.00044 | 0.02883 ± 0.00089 | 0.02853 ± 0.00067 |
| Age (Gyr) | | $0.1^{+0.0}_{-0.0}$ | $0.2^{+6.4}_{-0.0}$ | $20.0^{+0.0}_{-0.0}$ | $20.0^{+0.0}_{-16.0}$ | $0.1^{+28.1}_{-0.0}$ |
| | This work (final) | Paper II | Gillon et al. (2007a) | Gillon et al. (2007b) | Deming et al. (2007) | Torres (2007) |
| M_A (M_\odot) | $0.459 \pm 0.043 \pm 0.017$ | $0.501 \pm 0.053 \pm 0.044$ | 0.44 ± 0.04 fixed | 0.44 ± 0.04 fixed | 0.47 ± 0.02 | $0.452^{+0.014}_{-0.012}$ |
| R_A (R_\odot) | $0.454 \pm 0.029 \pm 0.005$ | $0.467 \pm 0.026 \pm 0.014$ | 0.44 ± 0.04 fixed | $0.463^{+0.22}_{-0.17}$ | 0.47 ± 0.02 | $0.464^{+0.009}_{-0.011}$ |
| $\log g_A$ (cgs) | $4.787 \pm 0.030 \pm 0.005$ | $4.799 \pm 0.034 \pm 0.013$ | | | | |
| ρ_A (ρ_\odot) | 4.92 ± 0.55 | 4.92 ± 0.55 | | | | |
| M_b (M_{Jup}) | $0.0737 \pm 0.0051 \pm 0.0018$ | $0.078 \pm 0.005 \pm 0.004$ | 0.0711 ± 0.006 | 0.0711 ± 0.006 | 0.070 ± 0.003 | 0.0729 ± 0.0025 |
| R_b (R_{Jup}) | $0.365 \pm 0.018 \pm 0.004$ | $0.376 \pm 0.019 \pm 0.011$ | $0.352^{+0.037}_{-0.025}$ | $0.374^{+0.019}_{-0.014}$ | 0.386 ± 0.016 | $0.376^{+0.008}_{-0.009}$ |
| g_b (m s $^{-1}$) | 13.7 ± 1.1 | 13.7 ± 1.1 | | | | 12.8 ± 1.2 |
| ρ_b (ρ_{Jup}) | $1.51 \pm 0.19 \pm 0.02$ | $1.47 \pm 0.18 \pm 0.04$ | | 1.4 | | $1.36^{+0.11}_{-0.10}$ |
| T'_{eq} (K) | 669 ± 22 | | | | | |
| Θ | $0.0253 \pm 0.0015 \pm 0.0003$ | | | | | |
| a (AU) | $0.02887 \pm 0.00089 \pm 0.00035$ | $0.0297 \pm 0.0010 \pm 0.0009$ | | | 0.0291 ± 0.0004 | 0.02872 ± 0.00027 |
| Age (Gyr) | unconstrained | unconstrained | | | | 6^{+5}_{-4} |
| | TWH08 | Alonso et al. (2008) | Shporer et al. (2009) | Bean et al. (2008) | Pont et al. (2009) | Ballard et al. (2009) |
| M_A (M_\odot) | $0.452^{+0.014}_{-0.012}$ | | $0.452^{+0.014}_{-0.012}$ fixed | 0.44 ± 0.04 fixed | 0.452 ± 0.013 adopted | 0.452 ± 0.013 adopted |
| R_A (R_\odot) | $0.464^{+0.009}_{-0.011}$ | | 0.45 ± 0.02 | $0.505^{+0.029}_{-0.020}$ | 0.446 ± 0.011 | 0.437 ± 0.016 |
| $\log g_A$ (cgs) | $4.843^{+0.018}_{-0.011}$ | | | | | |
| ρ_A (ρ_\odot) | $4.565^{+0.618}_{-0.568}$ | | | | | |
| M_b (M_{Jup}) | $0.0729^{+0.0025}_{-0.0025}$ | 0.0729 | 0.073 ± 0.003 | 0.0717 ± 0.047 | | |
| R_b (R_{Jup}) | $0.3767^{+0.0092}_{-0.0092}$ | | 0.37 ± 0.01 | $0.437^{+0.040}_{-0.029}$ | 0.360 ± 0.009 | 0.3641 ± 0.0131 |
| g_b (m s $^{-1}$) | $12.8^{+1.2}_{-1.2}$ | | | | | |
| ρ_b (ρ_{Jup}) | $1.36^{+0.11}_{-0.10}$ | | | $0.72^{+0.13}_{-0.19}$ | | |
| T'_{eq} (K) | 649^{+60}_{-60} | | | | | |
| Θ | $0.0246^{+0.0013}_{-0.0013}$ | | | | | |
| a (AU) | $0.02872^{+0.00029}_{-0.00026}$ | 0.02872 | $0.02872^{+0.00030}_{-0.00025}$ | | | |
| Age (Gyr) | $6.0^{+4.0}_{-5.0}$ | | | | | |

Table A69. Derived physical properties of the HD 149026 system. The upper part of the table contains the individual results from this work; in each case $g_b = 23.7^{+6.8}_{-6.2} \text{ m s}^{-2}$, $\rho_A = 0.592^{+0.083}_{-0.129} \rho_\odot$ and $T'_{\text{eq}} = 1626^{+69}_{-37} \text{ K}$. The lower part of the table contains the final results and a comparison to published measurements.

| | This work (Mass-radius) | This work (<i>Claret</i> models) | This work (<i>Y</i> ² models) | This work (<i>Teramo</i> models) | This work (<i>VRSS</i> models) | This work (<i>DSEP</i> models) |
|------------------------------------|---|---|---|---|---|---|
| $K_{\rm b}$ (km s ^{−1}) | 161.37 ^{+7.66} _{−4.92} | 162.37 ^{+1.27} _{−0.92} | 162.55 ^{+1.03} _{−0.92} | 156.66 ^{+7.20} _{−1.69} | 161.34 ^{+1.24} _{−0.95} | 161.98 ^{+1.82} _{−1.05} |
| $M_{\rm A}$ (M _⊙) | 1.255 ^{+0.185} _{−0.112} | 1.279 ^{+0.030} _{−0.020} | 1.283 ^{+0.024} _{−0.021} | 1.148 ^{+0.163} _{−0.036} | 1.254 ^{+0.029} _{−0.021} | 1.269 ^{+0.043} _{−0.024} |
| $R_{\rm A}$ (R _⊙) | 1.285 ^{+0.171} _{−0.086} | 1.293 ^{+0.119} _{−0.055} | 1.294 ^{+0.117} _{−0.058} | 1.247 ^{+0.147} _{−0.058} | 1.285 ^{+0.118} _{−0.056} | 1.290 ^{+0.120} _{−0.044} |
| log $g_{\rm A}$ (cgs) | 4.319 ^{+0.030} _{−0.054} | 4.322 ^{+0.038} _{−0.069} | 4.322 ^{+0.037} _{−0.070} | 4.306 ^{+0.041} _{−0.061} | 4.319 ^{+0.038} _{−0.069} | 4.321 ^{+0.042} _{−0.069} |
| $M_{\rm b}$ (M _{Jup}) | 0.353 ^{+0.035} _{−0.023} | 0.357 ^{+0.011} _{−0.011} | 0.358 ^{+0.011} _{−0.011} | 0.332 ^{+0.032} _{−0.012} | 0.353 ^{+0.011} _{−0.011} | 0.355 ^{+0.013} _{−0.011} |
| $R_{\rm b}$ (R _{Jup}) | 0.608 ^{+0.102} _{−0.074} | 0.611 ^{+0.099} _{−0.072} | 0.612 ^{+0.099} _{−0.072} | 0.590 ^{+0.099} _{−0.070} | 0.607 ^{+0.098} _{−0.072} | 0.610 ^{+0.099} _{−0.072} |
| $\rho_{\rm b}$ (ρ _{Jup}) | 1.57 ^{+0.72} _{−0.58} | 1.56 ^{+0.71} _{−0.57} | 1.56 ^{+0.71} _{−0.57} | 1.62 ^{+0.74} _{−0.59} | 1.57 ^{+0.72} _{−0.57} | 1.57 ^{+0.72} _{−0.57} |
| Θ | 0.0395 ^{+0.0055} _{−0.0059} | 0.0392 ^{+0.0053} _{−0.0056} | 0.0392 ^{+0.0053} _{−0.0056} | 0.0406 ^{+0.0056} _{−0.0061} | 0.0395 ^{+0.0054} _{−0.0056} | 0.0393 ^{+0.0054} _{−0.0056} |
| a (AU) | 0.04270 ^{+0.00203} _{−0.00130} | 0.04296 ^{+0.00034} _{−0.00023} | 0.04301 ^{+0.00027} _{−0.00023} | 0.04145 ^{+0.00190} _{−0.00044} | 0.04269 ^{+0.00033} _{−0.00024} | 0.04286 ^{+0.00048} _{−0.00027} |
| Age (Gyr) | | 1.1 ^{+1.1} _{−0.8} | 1.1 ^{+0.8} _{−0.5} | 5.7 ^{+0.9} _{−4.5} | 1.2 ^{+0.8} _{−1.0} | 1.5 ^{+1.0} _{−1.5} |
| | | | | | | |
| | This work (final) | Paper II | | Sato et al. (2005) | Charbonneau et al. (2006) | Masana et al. (2006) |
| $M_{\rm A}$ (M _⊙) | 1.271 ^{+0.043} _{−0.024} ^{+0.012} _{−0.017} | 1.277 ^{+0.033} _{−0.023} ^{+0.000} _{−0.008} | | 1.3 ± 0.1 | 1.30 ± 0.10 fixed | |
| $R_{\rm A}$ (R _⊙) | 1.290 ^{+0.120} _{−0.058} ^{+0.004} _{−0.006} | 1.292 ^{+0.121} _{−0.058} ^{+0.000} _{−0.003} | | 1.45 ± 0.1 | 1.45 ± 0.10 fixed | 1.515 ± 0.096 |
| log $g_{\rm A}$ (cgs) | 4.321 ^{+0.042} _{−0.070} ^{+0.001} _{−0.002} | 4.321 ^{+0.039} _{−0.069} ^{+0.000} _{−0.001} | | | | |
| $\rho_{\rm A}$ (ρ _⊙) | 0.592 ^{+0.083} _{−0.129} | 0.592 ^{+0.083} _{−0.129} | | | | |
| $M_{\rm b}$ (M _{Jup}) | 0.356 ^{+0.013} _{−0.011} ^{+0.002} _{−0.003} | 0.357 ^{+0.012} _{−0.011} ^{+0.000} _{−0.001} | | 0.36 ± 0.04 | | |
| $R_{\rm b}$ (R _{Jup}) | 0.610 ^{+0.099} _{−0.072} ^{+0.002} _{−0.003} | 0.611 ^{+0.099} _{−0.072} ^{+0.000} _{−0.001} | | 0.725 ± 0.05 | 0.726 ± 0.064 | |
| $g_{\rm b}$ (m s ^{−1}) | 23.7 ^{+6.8} _{−6.2} | 23.7 ^{+6.8} _{−6.2} | | | | |
| $\rho_{\rm b}$ (ρ _{Jup}) | 1.57 ^{+0.72} _{−0.57} ^{+0.01} _{−0.01} | 1.56 ^{+0.71} _{−0.57} ^{+0.00} _{−0.00} | | | 0.86 ^{+0.34} _{−0.024} | |
| $T'_{\rm eq}$ (K) | 1626 ⁺⁶⁹ _{−37} | | | | | |
| Θ | 0.0393 ^{+0.0054} _{−0.0056} ^{+0.0002} _{−0.0001} | | | | | |
| a (AU) | 0.04288 ^{+0.00048} _{−0.00027} ^{+0.00013} _{−0.00019} | 0.04294 ^{+0.00037} _{−0.00026} ^{+0.00000} _{−0.00009} | | 0.042 | | |
| Age (Gyr) | 1.2 ^{+1.1} _{−1.5} ^{+0.3} _{−0.1} | 1.2 ^{+1.0} _{−1.0} ^{+0.0} _{−0.0} | | | | |
| | | | | | | |
| | Wolf et al. (2007) | Winn et al. (2008a) | TWH08 | Nutzman et al. (2009) | Carter et al. (2009) | Gonzalez et al. (2010) |
| $M_{\rm A}$ (M _⊙) | 1.30 ± 0.10 fixed | 1.30 ± 0.06 fixed | 1.294 ^{+0.060} _{−0.050} | 1.30 ± 0.10 fixed | 1.345 ± 0.020 | 1.24 ± 0.03 |
| $R_{\rm A}$ (R _⊙) | 1.45 ± 0.10 fixed | 1.45 ± 0.10 fixed | 1.368 ^{+0.120} _{−0.083} | 1.497 ± 0.069 | 1.541 ^{+0.046} _{−0.042} | |
| log $g_{\rm A}$ (cgs) | | | 4.278 ^{+0.045} _{−0.063} | | 4.189 ^{+0.020} _{−0.021} | 4.19 ± 0.05 |
| $\rho_{\rm A}$ (ρ _⊙) | | | 0.584 ^{+0.008} _{−0.177} | | 0.353 ^{+0.030} _{−0.040} | |
| $M_{\rm b}$ (M _{Jup}) | 0.352 ± 0.025 | 0.36 ± 0.03 | 0.359 ^{+0.022} _{−0.021} | 0.359 ± 0.006 | 0.368 ^{+0.013} _{−0.014} | |
| $R_{\rm b}$ (R _{Jup}) | 0.718 ± 0.065 | 0.71 ± 0.05 | 0.654 ^{+0.060} _{−0.045} | 0.755 ± 0.040 | 0.813 ^{+0.027} _{−0.025} | |
| $g_{\rm b}$ (m s ^{−1}) | | 22.8 ^{+0.4} _{−5.9} | 22.9 ^{+2.4} _{−4.2} | 16.0 ^{+1.9} _{−1.7} | 13.55 ^{+0.94} _{−1.05} | |
| $\rho_{\rm b}$ (ρ _{Jup}) | | | 1.28 ^{+0.31} _{−0.29} | | 0.68 ^{+0.08} _{−0.07} | |
| $T'_{\rm eq}$ (K) | | | 1634 ⁺⁹⁰ _{−23} | | | |
| Θ | | | 0.0384 ^{+0.0028} _{−0.0037} | | | |
| a (AU) | | | 0.04313 ^{+0.0028} _{−0.0037} | | | |
| Age (Gyr) | | | 1.9 ^{+0.9} _{−0.9} | | 2.6 ^{+0.3} _{−0.2} | 2.4 ± 0.7 |

Table A70. Derived physical properties of the HD 189733 system. The upper part of the table contains the individual results from this work; in each case $g_b = 21.5 \pm 1.2 \text{ m s}^{-2}$, $\rho_A = 1.98 \pm 0.17 \rho_\odot$ and $T'_{\text{eq}} = 1191 \pm 20 \text{ K}$. The lower part of the table contains the final results and a comparison to published measurements. Note that the results presented in this paper were restricted to ages in the interval 0–5 Gyr due to the high activity level of the star.

| | This work (Mass-radius) | This work (<i>Claret</i> models) | This work (<i>Y</i> ² models) | This work (<i>Teramo</i> models) | This work (<i>VRSS</i> models) | This work (<i>DSEP</i> models) | |
|------------------------------------|---|---|--|---|-------------------------------------|-------------------------------------|-------------------------|
| K_b (km s ^{−1}) | 143.18 ± 4.73 | 155.26 ± 0.96 | 152.82 ± 1.72 | 152.85 ± 1.88 | 153.24 ± 1.68 | 153.21 ± 1.39 | |
| M_A (M _⊙) | 0.682 ± 0.067 | 0.870 ± 0.016 | 0.829 ± 0.028 | 0.830 ± 0.030 | 0.836 ± 0.027 | 0.836 ± 0.023 | |
| R_A (R _⊙) | 0.701 ± 0.036 | 0.760 ± 0.021 | 0.749 ± 0.023 | 0.749 ± 0.020 | 0.751 ± 0.019 | 0.750 ± 0.021 | |
| log g_A (cgs) | 4.580 ± 0.022 | 4.615 ± 0.024 | 4.608 ± 0.024 | 4.608 ± 0.026 | 4.609 ± 0.026 | 4.609 ± 0.025 | |
| M_b (M _{Jup}) | 1.001 ± 0.066 | 1.176 ± 0.015 | 1.140 ± 0.026 | 1.140 ± 0.028 | 1.146 ± 0.026 | 1.146 ± 0.021 | |
| R_b (R _{Jup}) | 1.074 ± 0.047 | 1.164 ± 0.034 | 1.146 ± 0.035 | 1.146 ± 0.036 | 1.149 ± 0.035 | 1.149 ± 0.034 | |
| ρ_b (ρ _{Jup}) | 0.809 ± 0.075 | 0.746 ± 0.064 | 0.758 ± 0.066 | 0.758 ± 0.066 | 0.756 ± 0.066 | 0.756 ± 0.065 | |
| Θ | 0.0800 ± 0.0035 | 0.0738 ± 0.0022 | 0.0750 ± 0.0023 | 0.0750 ± 0.0024 | 0.0748 ± 0.0023 | 0.0748 ± 0.0023 | |
| a (AU) | 0.02932 ± 0.00097 | 0.03179 ± 0.00020 | 0.03129 ± 0.00035 | 0.03130 ± 0.00038 | 0.03138 ± 0.00034 | 0.03137 ± 0.00028 | |
| Age (Gyr) | | 0.1 ^{+2.1} _{−0.0} | 2.9 ^{+3.2} _{−3.3} | 2.0 ^{+4.5} _{−2.8} | 1.2 ^{+4.7} _{−1.5} | 0.9 ^{+3.5} _{−0.9} | |
| <hr/> | | | | | | | |
| | This work (final) | | Paper II | Bouchy et al. (2005b) | Bakos et al. (2006) | Masana et al. (2006) | |
| <hr/> | | | | | | | |
| M_A (M _⊙) | 0.840 ± 0.030 ± 0.029 | 0.866 ± 0.029 ± 0.042 | | 0.83 ± 0.03 fixed | 0.83 ± 0.03 fixed | | |
| R_A (R _⊙) | 0.752 ± 0.023 ± 0.009 | 0.760 ± 0.024 ± 0.013 | | 0.71 ± 0.02 fixed | 0.758 ± 0.016 fixed | 0.758 ± 0.016 | |
| log g_A (cgs) | 4.610 ± 0.026 ± 0.005 | 4.615 ± 0.025 ± 0.008 | | | | | |
| ρ _A (ρ _⊙) | 1.98 ± 0.17 | 1.980 ± 0.170 | | | | | |
| M_b (M _{Jup}) | 1.150 ± 0.028 ± 0.027 | 1.199 ± 0.043 ± 0.040 | | 1.15 ± 0.04 | | | |
| R_b (R _{Jup}) | 1.151 ± 0.036 ± 0.013 | 1.163 ± 0.035 ± 0.020 | | 1.26 ± 0.03 | 1.154 ± 0.033 | | |
| g_b (m s ^{−1}) | 21.5 ± 1.2 | 22.0 ± 1.4 | | | | | |
| ρ _b (ρ _{Jup}) | 0.755 ± 0.066 ± 0.009 | 0.763 ± 0.071 ± 0.013 | | 0.60 ± 0.06 | ~ 0.8 | | |
| T'_{eq} (K) | 1191 ± 20 | | | | | | |
| Θ | 0.0747 ± 0.0024 ± 0.0009 | | | | | | |
| a (AU) | 0.03142 ± 0.00038 ± 0.00036 | 0.0 to 5.0 | | 0.0313 ± 0.0004 | | | |
| Age (Gyr) | 1.4 ^{+4.7} _{−3.3} ^{+1.5} _{−1.3} | 0.03175 ± 0.00036 ± 0.00053 | | | | | |
| <hr/> | | | | | | | |
| | Winn et al. (2006) | Winn et al. (2007b) | Baines et al. (2007) | TWH08 | Miller-Ricci et al. (2008) | Baines et al. (2008) | Boisse et al. (2009) |
| <hr/> | | | | | | | |
| M_A (M _⊙) | 0.82 ± 0.03 | | | 0.806 ^{+0.0048} _{−0.0048} | 0.82 ± 0.03 fixed | | 0.82 ± 0.03 |
| R_A (R _⊙) | 0.73 ± 0.02 | 0.753 ± 0.025 | 0.779 ± 0.052 | 0.756 ^{+0.018} _{−0.018} | 0.749 ± 0.009 | 0.788 ± 0.051 | |
| log g_A (cgs) | | | | 4.587 ^{+0.014} _{−0.015} | | | |
| ρ _A (ρ _⊙) | | | | 1.867 ^{+0.038} _{−0.038} | | | |
| M_b (M _{Jup}) | 1.13 ± 0.03 | | | 1.144 ^{+0.057} _{−0.056} | | | 1.13 ± 0.03 |
| R_b (R _{Jup}) | 1.10 ± 0.03 | 1.156 ± 0.046 | 1.19 ± 0.08 | 1.138 ^{+0.037} _{−0.037} | 1.192 ± 0.019 | | |
| g_b (m s ^{−1}) | | 21 ± 2 | | 21.9 ^{+0.72} _{−0.69} | | | |
| ρ _b (ρ _{Jup}) | | | 0.73 ± 0.15 | 0.776 ^{+0.071} _{−0.064} | | | |
| T'_{eq} (K) | | | | 1201 ⁺¹³ _{−12} | | | |
| Θ | | | | 0.0772 ^{+0.0028} _{−0.0027} | | | |
| a (AU) | | | | 0.03099 ^{+0.00060} _{−0.00063} | | | |
| Age (Gyr) | | | | 6.8 ^{+5.2} _{−4.4} | | | |
| <hr/> | | | | | | | |
| | van Belle & von Braun (2009) | Triaud et al. (2009) | Gonzales et al. (2010) | Collier Cameron et al. (2010) | Hrudková et al. (2010) | | |
| <hr/> | | | | | | | |
| M_A (M _⊙) | | 0.823 ^{+0.022} _{−0.029} | 0.81 ± 0.02 | | 0.82 ± 0.03 adopted | | |
| R_A (R _⊙) | 0.781 ± 0.051 | 0.766 ^{+0.007} _{−0.013} | | 0.732 ± 0.007 | 0.755 ± 0.009 | | |
| log g_A (cgs) | | | 4.56 ± 0.02 | | | | |
| ρ _A (ρ _⊙) | | 1.831 ^{+0.059} _{−0.029} | | | | | |
| M_b (M _{Jup}) | | 1.138 ^{+0.022} _{−0.025} | | | 1.15 ± 0.04 adopted | | |
| R_b (R _{Jup}) | | 1.178 ^{+0.016} _{−0.023} | | | 1.142 ± 0.014 | | |
| g_b (m s ^{−1}) | | | | | | | |
| ρ _b (ρ _{Jup}) | | | | | | | |
| T'_{eq} (K) | | | | | | | |
| Θ | | | | | | | |
| a (AU) | | 0.03120 ^{+0.00027} _{−0.00037} | | | | | |
| Age (Gyr) | | | 4.8 ± 4.0 | | | | |

Table A71. Derived physical properties of the HD 209458 system. The upper part of the table contains the individual results from this work; in each case $g_b = 9.300 \pm 0.082 \text{ m s}^{-2}$, $\rho_A = 0.7326 \pm 0.0079 \rho_\odot$ and $T'_{\text{eq}} = 1459 \pm 12 \text{ K}$. The lower part of the table contains the final results and a comparison to published measurements.

| | This work (Mass-radius) | This work (<i>Claret</i> models) | This work (<i>Y</i> ² models) | This work (<i>Teramo</i> models) | This work (<i>VRSS</i> models) | This work (<i>DSEP</i> models) | |
|------------------------------|---|--------------------------------------|--|--------------------------------------|-------------------------------------|-------------------------------------|---|
| K_b (km s ^{−1}) | 145.0 ± 3.3 | 146.7 ± 1.2 | 146.4 ± 1.2 | 145.5 ± 1.4 | 145.9 ± 1.3 | 145.0 ± 1.2 | |
| M_A (M _⊙) | 1.127 ± 0.076 | 1.168 ± 0.028 | 1.159 ± 0.028 | 1.139 ± 0.033 | 1.149 ± 0.029 | 1.126 ± 0.028 | |
| R_A (R _⊙) | 1.154 ± 0.027 | 1.168 ± 0.010 | 1.165 ± 0.010 | 1.158 ± 0.012 | 1.162 ± 0.011 | 1.154 ± 0.011 | |
| log g_A (cgs) | 4.3652 ± 0.0100 | 4.3703 ± 0.0048 | 4.3693 ± 0.0047 | 4.3667 ± 0.0053 | 4.3680 ± 0.0049 | 4.3651 ± 0.0047 | |
| M_b (M _{Jup}) | 0.705 ± 0.032 | 0.722 ± 0.012 | 0.718 ± 0.012 | 0.710 ± 0.014 | 0.714 ± 0.012 | 0.704 ± 0.012 | |
| R_b (R _{Jup}) | 1.371 ± 0.031 | 1.388 ± 0.013 | 1.384 ± 0.013 | 1.376 ± 0.015 | 1.380 ± 0.013 | 1.371 ± 0.013 | |
| ρ_b (ρ _{Jup}) | 0.2734 ± 0.0071 | 0.2702 ± 0.0042 | 0.2708 ± 0.0042 | 0.2724 ± 0.0044 | 0.2716 ± 0.0042 | 0.2735 ± 0.0042 | |
| Θ | 0.04299 ± 0.00098 | 0.04249 ± 0.00040 | 0.04259 ± 0.00040 | 0.04284 ± 0.00046 | 0.04272 ± 0.00041 | 0.04301 ± 0.00041 | |
| a (AU) | 0.04718 ± 0.00106 | 0.04774 ± 0.00039 | 0.04763 ± 0.00039 | 0.04734 ± 0.00046 | 0.04748 ± 0.00040 | 0.04716 ± 0.00039 | |
| Age (Gyr) | | 2.1 ^{+0.6} _{−0.6} | 2.1 ^{+0.6} _{−0.5} | 2.5 ^{+0.9} _{−0.7} | 1.9 ^{+0.7} _{−0.6} | 2.8 ^{+0.5} _{−0.6} | |
| | This work (final) | Charbonneau et al. (2000) | Henry et al. (2000) | Mazeh et al. (2000) | Queloz et al. (2000) | Brown et al. (2001) | Cody & Sasselov (2002) |
| M_A (M _⊙) | 1.148 ± 0.033 ± 0.022 | 1.1 fixed | 1.03 fixed | 1.1 ± 0.1 | | 1.1 ± 0.1 fixed | 1.06 ± 0.13 |
| R_A (R _⊙) | 1.162 ± 0.012 ± 0.008 | 1.1 fixed | 1.15 fixed | 1.2 ± 0.1 | 1.2 ± 0.1 | 1.146 ± 0.050 | 1.18 ± 0.10 |
| log g_A (cgs) | 4.3679 ± 0.0053 ± 0.0028 | | | | | | |
| ρ_A (ρ _⊙) | 0.7326 ± 0.0079 | | | | | | |
| M_b (M _{Jup}) | 0.714 ± 0.014 ± 0.009 | 0.63 | | 0.69 ± 0.05 | | | 0.685 ± 0.02 |
| R_b (R _{Jup}) | 1.380 ± 0.015 ± 0.009 | 1.27 ± 0.02 | 1.42 ± 0.10 | 1.40 ± 0.18 | 1.4 ± 0.17 | 1.347 ± 0.060 | 1.42 ^{+0.10} _{−0.13} |
| g_b (m s ^{−1}) | 9.300 ± 0.082 | 9.7 | | | | 9.43 | |
| ρ_b (ρ _{Jup}) | 0.2717 ± 0.0044 ± 0.0018 | 0.31 | 0.22 ± 0.03 | 0.25 ± 0.06 | | 0.28 | 0.24 |
| T'_{eq} (K) | 1459 ± 12 | | | | | | |
| Θ | 0.04273 ± 0.00046 ± 0.00028 | | | | | | |
| a (AU) | 0.04747 ± 0.00046 ± 0.00031 | | | | 0.048 ± 0.001 | | |
| Age (Gyr) | 2.3 ^{+0.9 +0.5} _{−0.7 −0.4} | | | | | | |
| | Mandel & Agol (2002) | Winn et al. (2005) | Wittenmyer et al. (2005) | Richardson et al. (2006) | Masana et al. (2006) | Knutson et al. (2007) | TWH08 |
| M_A (M _⊙) | 1.1 ± 0.1 fixed | 1.06 fixed | 1.093 ± 0.092 | 1.171 | | 1.101 ± 0.066 | 1.119 ^{+0.033} _{−0.033} |
| R_A (R _⊙) | 1.145 ± 0.035 | 1.15 ± 0.05 | 1.145 ± 0.056 | 1.064 ± 0.069 | 1.164 ± 0.057 | 1.125 ± 0.023 | 1.155 ^{+0.014} _{−0.016} |
| log g_A (cgs) | | | | | | | 4.361 ^{+0.007} _{−0.008} |
| ρ_A (ρ _⊙) | | | | | | | 0.727 ^{+0.010} _{−0.010} |
| M_b (M _{Jup}) | | 0.657 ± 0.064 | 0.657 ± 0.052 | | | 0.64 ± 0.06 | 0.685 ^{+0.015} _{−0.014} |
| R_b (R _{Jup}) | 1.376 ± 0.043 | 1.35 ± 0.06 | 1.350 ± 0.066 | 1.265 ± 0.085 | | 1.320 ± 0.025 | 1.359 ^{+0.016} _{−0.019} |
| g_b (m s ^{−1}) | | | | | | | 9.18 ^{+0.11} _{−0.11} |
| ρ_b (ρ _{Jup}) | | | | | | 0.278 ± 0.040 | 0.272 ^{+0.013} _{−0.011} |
| T'_{eq} (K) | | | | | | | 1449 ⁺¹² _{−12} |
| Θ | | | | | | | 0.04234 ^{+0.00058} _{−0.00057} |
| a (AU) | | | | | | | 0.04707 ^{+0.00046} _{−0.00047} |
| Age (Gyr) | | | | | | | 3.1 ^{+0.8} _{−0.7} |
| | Rowe et al. (2008) | Miller-Ricci et al. (2008) | Kipping (2008) | Paper II | van Belle & von Braun (2009) | | |
| M_A (M _⊙) | 1.083 ± 0.1 | 1.101 ± 0.064 | 1.163 ^{+0.096} _{−0.079} | 1.165 ± 0.033 ± 0.021 | | | |
| R_A (R _⊙) | 1.118 ± 0.03 | 1.118 ± 0.03 | 1.072 ^{+0.055} _{−0.052} | 1.170 ± 0.011 ± 0.007 | 1.29 ± 0.06 | | |
| log g_A (cgs) | | | | 4.368 ± 0.005 ± 0.003 | | | |
| ρ_A (ρ _⊙) | | | 0.94 ± 0.16 | 0.727 ± 0.005 | | | |
| M_b (M _{Jup}) | 0.69 ± 1.0 | | 0.681 ± 0.039 | 0.707 ± 0.016 ± 0.009 | | | |
| R_b (R _{Jup}) | 1.339 ± 0.04 | 1.339 ± 0.04 | 1.275 ± 0.082 | 1.389 ± 0.016 ± 0.008 | | | |
| g_b (m s ^{−1}) | | | | 9.08 ± 0.17 | | | |
| ρ_b (ρ _{Jup}) | | | 0.264 ± 0.052 | 0.263 ± 0.007 ± 0.002 | | | |
| T'_{eq} (K) | | | | | | | |
| Θ | | | | | | | |
| a (AU) | | | | 0.04770 ± 0.00045 ± 0.00028 | | | |
| Age (Gyr) | | | | 2.3 ± 0.7 ± 0.6 | | | |

Table A72. Derived physical properties of the OGLE-TR-10 system. The upper part of the table contains the individual results from this work; in each case $g_b = 5.7 \pm 1.4 \text{ m s}^{-2}$, $\rho_A = 0.361 \pm 0.063 \rho_\odot$ and $T'_{\text{eq}} = 1702 \pm 54 \text{ K}$. The lower part of the table contains the final results and a comparison to published measurements.

| | This work (Mass-radius) | This work (<i>Claret</i> models) | This work (<i>Y</i> ² models) | This work (<i>Teramo</i> models) | This work (<i>VRSS</i> models) | This work (<i>DSEP</i> models) |
|------------------------------|----------------------------|--------------------------------------|--|--------------------------------------|-------------------------------------|-------------------------------------|
| K_b (km s ^{−1}) | 169.9 ± 5.9 | 157.5 ± 2.6 | 157.7 ± 1.6 | 157.6 ± 3.2 | 156.8 ± 3.4 | 156.8 ± 2.3 |
| M_A (M _⊙) | 1.610 ± 0.168 | 1.283 ± 0.062 | 1.287 ± 0.038 | 1.284 ± 0.076 | 1.264 ± 0.082 | 1.266 ± 0.056 |
| R_A (R _⊙) | 1.646 ± 0.145 | 1.526 ± 0.097 | 1.528 ± 0.093 | 1.527 ± 0.100 | 1.519 ± 0.082 | 1.520 ± 0.099 |
| log g_A (cgs) | 4.212 ± 0.038 | 4.179 ± 0.049 | 4.179 ± 0.049 | 4.179 ± 0.049 | 4.177 ± 0.053 | 4.177 ± 0.047 |
| M_b (M _{Jup}) | 0.79 ± 0.18 | 0.68 ± 0.15 | 0.68 ± 0.15 | 0.68 ± 0.15 | 0.68 ± 0.15 | 0.68 ± 0.15 |
| R_b (R _{Jup}) | 1.86 ± 0.13 | 1.72 ± 0.11 | 1.72 ± 0.11 | 1.72 ± 0.11 | 1.71 ± 0.11 | 1.71 ± 0.11 |
| ρ_b (ρ _{Jup}) | 0.124 ± 0.035 | 0.134 ± 0.038 | 0.133 ± 0.038 | 0.133 ± 0.038 | 0.134 ± 0.038 | 0.134 ± 0.038 |
| Θ | 0.0259 ± 0.0058 | 0.0279 ± 0.0062 | 0.0279 ± 0.0062 | 0.0279 ± 0.0062 | 0.0280 ± 0.0062 | 0.0280 ± 0.0062 |
| a (AU) | 0.04879 ± 0.00170 | 0.04523 ± 0.00074 | 0.04528 ± 0.00045 | 0.04524 ± 0.00091 | 0.04501 ± 0.00099 | 0.04503 ± 0.00067 |
| Age (Gyr) | | 3.2 ^{+1.7} _{−0.7} | 2.9 ^{+0.6} _{−0.6} | 3.2 ^{+3.3} _{−0.6} | 2.9 ^{+2.8} _{−0.6} | 3.4 ^{+0.7} _{−0.7} |

| | This work (final) | Paper I | Bouchy et al. (2005a) | Konacki et al. (2005) | Pont et al. (2007) | Holman et al. (2007a) | TWH08 |
|------------------------------|---|-----------------------------|--------------------------|--------------------------|--|--|--|
| M_A (M _⊙) | 1.277 ± 0.082 ± 0.013 | 1.239 ± 0.053 ± 0.006 | 1.22 ± 0.045 | 1.00 ± 0.05 fixed | 1.18 ± 0.04 | 1.03 ^{+0.13} _{−0.12} | 1.14 ^{+0.10} _{−0.12} |
| R_A (R _⊙) | 1.52 ± 0.10 ± 0.00 | 1.280 ± 0.086 ± 0.002 | 1.21 ± 0.066 | 1.00 ± 0.10 fixed | 1.16 ± 0.06 | 1.06 ^{+0.19} _{−0.16} | 1.17 ^{+0.13} _{−0.11} |
| log g_A (cgs) | 4.178 ± 0.053 ± 0.001 | 4.317 ± 0.053 ± 0.001 | | | | | 4.358 ^{+0.064} _{−0.082} |
| ρ_A (ρ _⊙) | 0.361 ± 0.063 | 0.590 ± 0.110 | | | | | 0.73 ^{+0.13} _{−0.17} |
| M_b (M _{Jup}) | 0.68 ± 0.15 ± 0.00 | 0.66 ± 0.14 ± 0.01 | 0.66 ± 0.21 | 0.57 ± 0.12 | 0.63 ± 0.14 | 0.57 ± 0.12 | 0.62 ^{+0.14} _{−0.14} |
| R_b (R _{Jup}) | 1.72 ± 0.11 ± 0.01 | 1.27 ± 0.10 ± 0.00 | 1.54 ± 0.12 | 1.24 ± 0.09 | 1.26 ± 0.07 | 1.06 ± 0.08 | 1.25 ^{+0.14} _{−0.12} |
| g_b (m s ^{−1}) | 5.7 ± 1.4 | 10.1 ± 2.7 | | | | | 10.0 ^{+2.9} _{−2.6} |
| ρ_b (ρ _{Jup}) | 0.134 ± 0.038 ± 0.000 | 0.32 ± 0.11 ± 0.00 | | 0.31 ± 0.08 | 0.34 ^{+0.15} _{−0.11} | | 0.32 ^{+0.15} _{−0.10} |
| T'_{eq} (K) | 1702 ± 54 | | | | | | 1481 ⁺⁷¹ _{−55} |
| Θ | 0.0279 ± 0.0062 ± 0.0001 | | | | | | 1.25 ^{+0.14} _{−0.12} |
| a (AU) | 0.04516 ± 0.00099 ± 0.00015 | 0.04471 ± 0.00064 ± 0.00007 | | 0.04162 ± 0.00069 | | | 0.0434 ^{+0.0013} _{−0.0015} |
| Age (Gyr) | 3.1 ^{+3.3} _{−0.7} ^{+0.3} _{−0.2} | 2.0 ± 1.5 ± 0.0 | | | | | 3.2 ^{+4.0} _{−3.1} |

Table A73. Derived physical properties of the OGLE-TR-56 system. The upper part of the table contains the individual results from this work; in each case $g_b = 22.3 \pm 6.7 \text{ m s}^{-2}$, $\rho_A = 0.62 \pm 0.21 \rho_\odot$ and $T'_{\text{eq}} = 2140 \pm 120 \text{ K}$. The lower part of the table contains the final results and a comparison to published measurements.

| | This work (Mass-radius) | This work (<i>Claret</i> models) | This work (<i>Y</i> ² models) | This work (<i>Teramo</i> models) | This work (<i>VRSS</i> models) | This work (<i>DSEP</i> models) |
|------------------------------|----------------------------|--------------------------------------|--|--------------------------------------|-------------------------------------|-------------------------------------|
| K_b (km s ^{−1}) | 210.1 ± 12.2 | 211.4 ± 2.5 | 211.1 ± 2.6 | 210.6 ± 2.6 | 209.8 ± 2.3 | 210.1 ± 2.9 |
| M_A (M _⊙) | 1.225 ± 0.212 | 1.247 ± 0.034 | 1.241 ± 0.036 | 1.233 ± 0.036 | 1.219 ± 0.030 | 1.224 ± 0.043 |
| R_A (R _⊙) | 1.25 ± 0.20 | 1.26 ± 0.13 | 1.26 ± 0.14 | 1.26 ± 0.13 | 1.25 ± 0.13 | 1.25 ± 0.13 |
| log g_A (cgs) | 4.330 ± 0.070 | 4.332 ± 0.093 | 4.331 ± 0.092 | 4.331 ± 0.093 | 4.329 ± 0.092 | 4.329 ± 0.094 |
| M_b (M _{Jup}) | 1.294 ± 0.167 | 1.310 ± 0.079 | 1.305 ± 0.079 | 1.300 ± 0.079 | 1.290 ± 0.077 | 1.293 ± 0.080 |
| R_b (R _{Jup}) | 1.20 ± 0.18 | 1.21 ± 0.17 | 1.21 ± 0.17 | 1.20 ± 0.17 | 1.20 ± 0.17 | 1.20 ± 0.17 |
| ρ_b (ρ _{Jup}) | 0.75 ± 0.34 | 0.74 ± 0.34 | 0.74 ± 0.34 | 0.75 ± 0.34 | 0.75 ± 0.34 | 0.75 ± 0.34 |
| Θ | 0.0419 ± 0.0069 | 0.0416 ± 0.0065 | 0.0417 ± 0.0065 | 0.0418 ± 0.0065 | 0.0419 ± 0.0065 | 0.0419 ± 0.0065 |
| a (AU) | 0.02381 ± 0.00137 | 0.02395 ± 0.00022 | 0.02391 ± 0.00023 | 0.02386 ± 0.00023 | 0.02377 ± 0.00019 | 0.02380 ± 0.00028 |
| Age (Gyr) | | 1.5 ^{+1.4} _{−1.3} | 1.6 ^{+0.8} _{−1.4} | 2.0 ^{+1.4} _{−2.0} | 1.6 ^{+1.2} _{−1.4} | 2.0 ^{+1.1} _{−2.0} |

| | This work (final) | Paper II | Konacki et al. (2003) | Torres et al. (2004) | Bouchy et al. (2005a) | Santos et al. (2006) | Pont et al. (2007) | TWH08 |
|------------------------------|---|-----------------------------|--------------------------|--|--------------------------|-------------------------|--|---|
| M_A (M _⊙) | 1.233 ± 0.043 ± 0.014 | 1.247 ± 0.053 ± 0.019 | 1.04 ± 0.05 | 1.04 ± 0.05 | 1.10 ± 0.078 | 1.17 ± 0.04 | 1.17 ± 0.04 | 1.228 ^{+0.072} _{−0.078} |
| R_A (R _⊙) | 1.26 ± 0.14 ± 0.00 | 1.26 ± 0.15 ± 0.01 | 1.10 ± 0.10 | 1.10 ± 0.10 | 1.12 ± 0.069 | 1.15 ± 0.06 | 1.32 ± 0.06 | 1.363 ^{+0.089} _{−0.086} |
| log g_A (cgs) | 4.331 ± 0.094 ± 0.002 | 4.332 ± 0.089 ± 0.002 | | | | | | 4.258 ^{+0.043} _{−0.043} |
| ρ_A (ρ _⊙) | 0.62 ± 0.21 | 0.620 ± 0.210 | | | | | | 0.479 ^{+0.078} _{−0.055} |
| M_b (M _{Jup}) | 1.300 ± 0.080 ± 0.010 | 1.31 ± 0.14 ± 0.01 | 0.9 ± 0.3 | 1.45 ± 0.23 | 1.18 ± 0.13 | 1.24 ± 0.13 | 1.29 ± 0.12 | 1.39 ^{+0.18} _{−0.17} |
| R_b (R _{Jup}) | 1.20 ± 0.17 ± 0.00 | 1.21 ± 0.17 ± 0.00 | 1.30 ± 0.15 | 1.23 ± 0.16 | 1.25 ± 0.09 | 1.25 ± 0.08 | 1.30 ± 0.05 | 1.363 ^{+0.092} _{−0.090} |
| g_b (m s ^{−1}) | 22.3 ± 6.7 | 22.3 ± 7.0 | | | | | | 18.4 ^{+3.0} _{−2.7} |
| ρ_b (ρ _{Jup}) | 0.75 ± 0.34 ± 0.00 | 0.74 ± 0.35 ± 0.00 | 0.7 ± 0.4 | 1.4 ± 0.4 | | | 0.59 ^{+0.27} _{−0.20} | 0.55 ^{+0.15} _{−0.11} |
| T'_{eq} (K) | 2140 ± 120 | | | | | | | 2212 ⁺⁶¹ _{−63} |
| Θ | 0.0418 ± 0.0065 ± 0.0002 | | | 0.0393 ^{+0.0052} _{−0.0050} | | | | 0.0393 ^{+0.0052} _{−0.0050} |
| a (AU) | 0.02386 ± 0.00028 ± 0.00009 | 0.02395 ± 0.00034 ± 0.00012 | 0.0225 | 0.0225 ± 0.0004 | | | | 0.02383 ^{+0.00046} _{−0.00051} |
| Age (Gyr) | 1.7 ^{+1.4+0.3} _{−2.0−0.2} | 1.6 ± 1.4 ± 0.2 | | | | | | 3.2 ^{+1.0} _{−1.3} |

Table A74. Derived physical properties of the OGLE-TR-111 system. The upper part of the table contains the individual results from this work; in each case $g_b = 11.5 \pm 2.5 \text{ m s}^{-2}$, $\rho_A = 1.40 \pm 0.19 \rho_\odot$ and $T'_{\text{eq}} = 1034 \pm 28 \text{ K}$. The lower part of the table contains the final results and a comparison to published measurements.

| | This work (Mass-radius) | This work (Claret models) | This work (Y ² models) | This work (Teramo models) | This work (VRSS models) | This work (DSEP models) |
|------------------------------|---|--|--|--|---|--------------------------------------|
| K_b (km s ⁻¹) | 125.0 ± 4.4 | 127.1 ± 1.9 | 126.9 ± 1.8 | 124.5 ± 2.7 | 124.6 ± 2.5 | 126.4 ± 1.9 |
| M_A (M _⊙) | 0.814 ± 0.085 | 0.856 ± 0.038 | 0.853 ± 0.036 | 0.805 ± 0.054 | 0.806 ± 0.049 | 0.843 ± 0.038 |
| R_A (R _⊙) | 0.835 ± 0.061 | 0.850 ± 0.042 | 0.849 ± 0.036 | 0.832 ± 0.038 | 0.833 ± 0.040 | 0.845 ± 0.034 |
| log g_A (cgs) | 4.505 ± 0.031 | 4.512 ± 0.039 | 4.511 ± 0.042 | 4.503 ± 0.044 | 4.503 ± 0.042 | 4.510 ± 0.043 |
| M_b (M _{Jup}) | 0.532 ± 0.103 | 0.550 ± 0.101 | 0.549 ± 0.100 | 0.528 ± 0.100 | 0.529 ± 0.099 | 0.545 ± 0.099 |
| R_b (R _{Jup}) | 1.069 ± 0.075 | 1.087 ± 0.069 | 1.086 ± 0.067 | 1.066 ± 0.072 | 1.066 ± 0.070 | 1.082 ± 0.067 |
| ρ_b (ρ _{Jup}) | 0.44 ± 0.11 | 0.43 ± 0.11 | 0.43 ± 0.11 | 0.44 ± 0.11 | 0.44 ± 0.11 | 0.43 ± 0.11 |
| Θ | 0.056 ± 0.011 | 0.055 ± 0.011 | 0.056 ± 0.011 | 0.057 ± 0.011 | 0.057 ± 0.011 | 0.056 ± 0.011 |
| a (AU) | 0.04616 ± 0.00162 | 0.04694 ± 0.00069 | 0.04689 ± 0.00066 | 0.04600 ± 0.00099 | 0.04602 ± 0.00091 | 0.04671 ± 0.00070 |
| Age (Gyr) | | 12.1 ^{+0.0} _{-14.6} | 9.2 ^{+4.1} _{-4.5} | 18.1 ^{+1.6} _{-17.6} | 15.7 ^{+2.7} _{-14.0} | 10.4 ^{+4.3} _{-6.1} |
| | | | | | | |
| | This work (final) | Paper II | Pont et al. (2004) | Gallardo et al. (2005) | Santos et al. (2006) | |
| M_A (M _⊙) | 0.833 ± 0.054 ± 0.027 | 0.860 ± 0.060 ± 0.028 | 0.82 ^{+0.15} _{-0.02} | | 0.81 ± 0.02 | |
| R_A (R _⊙) | 0.842 ± 0.042 ± 0.009 | 0.851 ± 0.037 ± 0.009 | 0.85 ^{+0.10} _{-0.03} | 0.71 ± 0.02 | 0.83 ± 0.02 | |
| log g_A (cgs) | 4.508 ± 0.044 ± 0.005 | 4.513 ± 0.045 ± 0.005 | | | | |
| ρ_A (ρ _⊙) | 1.40 ± 0.19 | 1.400 ± 0.190 | | | | |
| M_b (M _{Jup}) | 0.54 ± 0.10 ± 0.01 | 0.55 ± 0.10 ± 0.01 | 0.53 ± 0.11 | | 0.52 ± 0.13 | |
| R_b (R _{Jup}) | 1.077 ± 0.072 ± 0.012 | 1.089 ± 0.070 ± 0.012 | 1.00 ^{+0.13} _{-0.06} | 0.94 ± 0.03 | 0.97 ± 0.06 | |
| g_b (m s ⁻¹) | 11.5 ± 2.5 | 11.5 ± 2.5 | | | | |
| ρ_b (ρ _{Jup}) | 0.43 ± 0.11 ± 0.00 | 0.43 ± 0.11 ± 0.01 | 0.49 ^{+0.31} _{-0.21} | | | |
| T'_{eq} (K) | 1034 ± 28 | | | | | |
| Θ | 0.056 ± 0.011 ± 0.001 | | | | | |
| a (AU) | 0.04651 ± 0.00099 ± 0.00051 | 0.0470 ± 0.0011 ± 0.0005 | 0.047 ± 0.001 | | | |
| Age (Gyr) | 13.1 ^{+4.3} _{-17.6} ^{+5.0} _{-3.9} | 11.5 ^{+5.4} _{-7.0} ^{+1.6} _{-1.6} | | | | |
| | | | | | | |
| | Silva & Cruz (2006) | Winn et al. (2007a) | Minniti et al. (2007) | TWH08 | Díaz et al. (2008) | Pietrukowicz et al. (2010) |
| M_A (M _⊙) | 0.96 ± 0.21 | 0.81 ± 0.02 fixed | 0.82 ± 0.02 fixed | 0.852 ^{+0.058} _{-0.052} | 0.81 fixed | |
| R_A (R _⊙) | | 0.831 ± 0.031 | 0.83 ± 0.03 fixed | 0.831 ^{+0.045} _{-0.040} | 0.81 ^{+0.041} _{-0.048} | |
| log g_A (cgs) | | | | 4.529 ^{+0.038} _{-0.042} | | |
| ρ_A (ρ _⊙) | | | | 1.47 ^{+0.17} _{-0.16} | | |
| M_b (M _{Jup}) | | 0.52 fixed | 0.53 fixed | 0.55 ^{+0.10} _{-0.10} | 0.52 fixed | |
| R_b (R _{Jup}) | 1.16 ± 0.19 | 1.067 ± 0.054 | 1.006 ^{+0.065} _{-0.048} | 1.051 ^{+0.057} _{-0.052} | 0.922 ^{+0.057} _{-0.062} | 1.01 ± 0.06 |
| g_b (m s ⁻¹) | | | | 12.2 ^{+2.5} _{-2.4} | | |
| ρ_b (ρ _{Jup}) | | | 0.6 ± 0.2 | 0.48 ^{+0.13} _{-0.11} | | |
| T'_{eq} (K) | | | 900 | 1025 ⁺²⁶ ₋₂₅ | | |
| Θ | | | | 0.057 ^{+0.011} _{-0.011} | | |
| a (AU) | 0.047 ± 0.001 | | 0.0467 ^{+0.050} _{-0.065} | 0.04689 ^{+0.0010} _{-0.00097} | | |
| Age (Gyr) | | | | 8.8 ^{+5.2} _{-6.6} | | |

Table A75. Derived physical properties of the OGLE-TR-132 system. The upper part of the table contains the individual results from this work; in each case $g_b = 18.5 \pm 5.0 \text{ m s}^{-2}$, $\rho_A = 0.50 \pm 0.15 \rho_\odot$ and $T'_{\text{eq}} = 2017 \pm 97 \text{ K}$. The lower part of the table contains the final results and a comparison to published measurements.

| | This work (Mass-radius) | This work (Claret models) | This work (Y^2 models) | This work (Teramo models) | This work (VRSS models) | This work (DSEP models) |
|----------------------------------|-----------------------------------|-----------------------------------|------------------------------|------------------------------|----------------------------|----------------------------|
| K_b (km s $^{-1}$) | 196.9 ± 10.3 | 194.1 ± 1.6 | 194.0 ± 1.6 | 193.4 ± 4.1 | 192.3 ± 1.7 | 193.5 ± 1.8 |
| M_A (M_\odot) | 1.366 ± 0.213 | 1.309 ± 0.025 | 1.308 ± 0.027 | 1.296 ± 0.078 | 1.273 ± 0.029 | 1.298 ± 0.031 |
| R_A (R_\odot) | 1.40 ± 0.20 | 1.38 ± 0.13 | 1.38 ± 0.13 | 1.37 ± 0.14 | 1.37 ± 0.13 | 1.37 ± 0.13 |
| $\log g_A$ (cgs) | 4.283 ± 0.062 | 4.276 ± 0.082 | 4.276 ± 0.082 | 4.275 ± 0.083 | 4.273 ± 0.082 | 4.275 ± 0.082 |
| M_b (M_{Jup}) | 1.21 ± 0.18 | 1.18 ± 0.13 | 1.18 ± 0.13 | 1.17 ± 0.14 | 1.16 ± 0.13 | 1.17 ± 0.13 |
| R_b (R_{Jup}) | 1.28 ± 0.17 | 1.26 ± 0.15 | 1.26 ± 0.15 | 1.25 ± 0.16 | 1.25 ± 0.15 | 1.26 ± 0.15 |
| ρ_b (ρ_{Jup}) | 0.58 ± 0.23 | 0.59 ± 0.24 | 0.59 ± 0.24 | 0.59 ± 0.24 | 0.60 ± 0.24 | 0.59 ± 0.24 |
| Θ | 0.0428 ± 0.0074 | 0.0435 ± 0.0071 | 0.0435 ± 0.0071 | 0.0436 ± 0.0072 | 0.0439 ± 0.0072 | 0.0436 ± 0.0072 |
| a (AU) | 0.03081 ± 0.00160 | 0.03038 ± 0.00019 | 0.03037 ± 0.00021 | 0.03028 ± 0.00062 | 0.03010 ± 0.00023 | 0.03030 ± 0.00024 |
| Age (Gyr) | | $1.4^{+0.6}_{-1.1}$ | $1.1^{+0.5}_{-0.8}$ | $1.8^{+4.2}_{-1.5}$ | $1.4^{+0.6}_{-1.0}$ | $1.6^{+0.5}_{-1.4}$ |
| <hr/> | | | | | | |
| | This work (final) | Paper II | | Bouchy et al. (2004) | Moutou et al. (2004) | Gillon et al. (2007c) |
| M_A (M_\odot) | $1.297 \pm 0.078 \pm 0.023$ | $1.311 \pm 0.044 \pm 0.014$ | | 1.34 ± 0.10 | 1.35 ± 0.06 | 1.26 ± 0.03 |
| R_A (R_\odot) | $1.37 \pm 0.14 \pm 0.01$ | $1.38 \pm 0.14 \pm 0.00$ | | $1.41^{+0.49}_{-0.10}$ | 1.43 ± 0.10 | 1.34 ± 0.08 |
| $\log g_A$ (cgs) | $4.275 \pm 0.083 \pm 0.003$ | $4.277 \pm 0.079 \pm 0.001$ | | | | |
| ρ_A (ρ_\odot) | 0.50 ± 0.15 | 0.50 ± 0.15 | | | | |
| M_b (M_{Jup}) | $1.17 \pm 0.14 \pm 0.01$ | $1.00 \pm 0.30 \pm 0.00$ | | 1.01 ± 0.31 | 1.19 ± 0.13 | 1.14 ± 0.12 |
| R_b (R_{Jup}) | $1.25 \pm 0.16 \pm 0.01$ | $1.26 \pm 0.15 \pm 0.00$ | | $1.15^{+0.80}_{-0.13}$ | 1.13 ± 0.08 | 1.18 ± 0.07 |
| g_b (m s $^{-1}$) | 18.5 ± 5.0 | 15.6 ± 6.1 | | | | |
| ρ_b (ρ_{Jup}) | $0.59 \pm 0.24 \pm 0.00$ | $0.50 \pm 0.24 \pm 0.00$ | | $0.6^{+0.3}_{-0.5}$ | 0.82 ± 0.27 | $0.69^{+0.22}_{-0.17}$ |
| T'_{eq} (K) | 2017 ± 97 | | | | | |
| Θ | $0.0436 \pm 0.0072 \pm 0.0003$ | | | | | |
| a (AU) | $0.03029 \pm 0.00062 \pm 0.00018$ | $0.03040 \pm 0.00034 \pm 0.00010$ | | 0.0306 ± 0.0008 | | |
| Age (Gyr) | $1.5^{+4.2}_{-1.5} \pm 0.3$ | $1.5^{+0.6}_{-1.4} \pm 0.1$ | | | | |

Table A76. Derived physical properties of the TrES-1 system. The upper part of the table contains the individual results from this work; in each case $g_b = 15.6 \pm 1.2 \text{ m s}^{-2}$, $\rho_A = 1.632 \pm 0.092 \rho_\odot$ and $T'_{\text{eq}} = 1147 \pm 15 \text{ K}$. The lower part of the table contains the final results and a comparison to published measurements.

| | This work (Mass-radius) | This work (Claret models) | This work (Y^2 models) | This work (Teramo models) | This work (VRSS models) | This work (DSEP models) |
|----------------------------------|-----------------------------------|-----------------------------------|------------------------------|------------------------------|----------------------------|---------------------------------|
| K_b (km s $^{-1}$) | 133.7 ± 3.9 | 143.7 ± 1.3 | 141.8 ± 1.3 | 140.5 ± 1.4 | 140.5 ± 1.3 | 141.1 ± 1.3 |
| M_A (M_\odot) | 0.752 ± 0.066 | 0.934 ± 0.025 | 0.898 ± 0.024 | 0.873 ± 0.026 | 0.873 ± 0.024 | 0.885 ± 0.024 |
| R_A (R_\odot) | 0.772 ± 0.031 | 0.830 ± 0.015 | 0.819 ± 0.017 | 0.812 ± 0.014 | 0.812 ± 0.013 | 0.815 ± 0.014 |
| $\log g_A$ (cgs) | 4.539 ± 0.017 | 4.570 ± 0.018 | 4.564 ± 0.017 | 4.560 ± 0.019 | 4.560 ± 0.018 | 4.562 ± 0.018 |
| M_b (M_{Jup}) | 0.679 ± 0.054 | 0.784 ± 0.045 | 0.764 ± 0.043 | 0.750 ± 0.043 | 0.749 ± 0.043 | 0.756 ± 0.043 |
| R_b (R_{Jup}) | 1.038 ± 0.041 | 1.116 ± 0.031 | 1.101 ± 0.031 | 1.091 ± 0.031 | 1.091 ± 0.030 | 1.096 ± 0.031 |
| ρ_b (ρ_{Jup}) | 0.607 ± 0.061 | 0.564 ± 0.054 | 0.572 ± 0.055 | 0.577 ± 0.056 | 0.577 ± 0.055 | 0.575 ± 0.055 |
| Θ | 0.0647 ± 0.0043 | 0.0602 ± 0.0037 | 0.0610 ± 0.0037 | 0.0616 ± 0.0037 | 0.0616 ± 0.0037 | 0.0613 ± 0.0037 |
| a (AU) | 0.03727 ± 0.00110 | 0.04006 ± 0.00036 | 0.03954 ± 0.00035 | 0.03917 ± 0.00039 | 0.03917 ± 0.00037 | 0.03935 ± 0.00036 |
| Age (Gyr) | | $0.5^{+3.4}_{-0.7}$ | $2.8^{+2.2}_{-3.0}$ | $5.3^{+3.0}_{-2.5}$ | $4.8^{+2.8}_{-2.3}$ | $3.4^{+1.7}_{-2.6}$ |
| <hr/> | | | | | | |
| | This work (final) | Paper II | | Alonso et al. (2004) | Winn et al. (2007b) | TWH08 |
| M_A (M_\odot) | $0.892 \pm 0.026 \pm 0.041$ | $0.929 \pm 0.030 \pm 0.037$ | | 0.88 ± 0.07 | 0.81 (fixed) | $0.878^{+0.038}_{-0.040}$ |
| R_A (R_\odot) | $0.818 \pm 0.017 \pm 0.013$ | $0.829 \pm 0.015 \pm 0.011$ | | 0.80 to 0.95 | 0.811 ± 0.020 | $0.807^{+0.017}_{-0.016}$ |
| $\log g_A$ (cgs) | $4.563 \pm 0.019 \pm 0.007$ | $4.569 \pm 0.018 \pm 0.006$ | | | | $4.567^{+0.012}_{-0.015}$ |
| ρ_A (ρ_\odot) | 1.632 ± 0.092 | 1.632 ± 0.092 | | | | $1.704^{+0.001}_{-0.085}$ |
| M_b (M_{Jup}) | $0.761 \pm 0.045 \pm 0.023$ | $0.781 \pm 0.045 \pm 0.021$ | | 0.75 ± 0.07 | | $0.752^{+0.047}_{-0.046}$ |
| R_b (R_{Jup}) | $1.099 \pm 0.031 \pm 0.017$ | $1.114 \pm 0.032 \pm 0.015$ | | $1.08^{+0.18}_{-0.04}$ | 1.081 ± 0.029 | $1.067^{+0.022}_{-0.021}$ |
| g_b (m s $^{-1}$) | 15.6 ± 1.2 | 15.6 ± 1.2 | | | | $16.6^{+1.0}_{-1.0}$ |
| ρ_b (ρ_{Jup}) | $0.573 \pm 0.056 \pm 0.009$ | $0.565 \pm 0.055 \pm 0.008$ | | | | $0.620^{+0.056}_{-0.052}$ |
| T'_{eq} (K) | 1147 ± 15 | | | | | 1140^{+13}_{-12} |
| Θ | $0.0612 \pm 0.0037 \pm 0.0009$ | | | | | $0.0634^{+0.0036}_{-0.0036}$ |
| a (AU) | $0.03946 \pm 0.00039 \pm 0.00060$ | $0.04000 \pm 0.00043 \pm 0.00054$ | | 0.0393 ± 0.0011 | | $0.03925^{+0.00056}_{-0.00060}$ |
| Age (Gyr) | $3.4^{+3.4}_{-3.0} \pm 1.9$ | $1.2^{+4.1}_{-1.8} \pm 2.2$ | | | | $3.7^{+3.4}_{-2.8}$ |

Table A77. Derived physical properties of the WASP-1 system. The upper part of the table contains the individual results from this work; in each case $g_b = 9.7^{+1.5}_{-1.1} \text{ m s}^{-2}$, $\rho_A = 0.403^{+0.069}_{-0.037} \rho_\odot$ and $T'_{\text{eq}} = 1800^{+32}_{-49} \text{ K}$. The lower part of the table contains the final results and a comparison to published measurements.

| | This work (Mass-radius) | This work (<i>Claret</i> models) | This work (<i>Y</i> ² models) | This work (<i>Teramo</i> models) | This work (<i>VRSS</i> models) | This work (<i>DSEP</i> models) | |
|------------------------------------|---|---|---|---|---|---|---|
| $K_{\rm b}$ (km s ^{−1}) | 179.8 ^{+4.7} _{−5.9} | 168.6 ^{+1.2} _{−1.4} | 168.4 ^{+1.4} _{−1.6} | 168.2 ^{+1.5} _{−1.7} | 167.6 ^{+1.3} _{−1.3} | 167.4 ^{+1.5} _{−1.7} | |
| $M_{\rm A}$ (M _⊙) | 1.522 ^{+0.120} _{−0.146} | 1.256 ^{+0.028} _{−0.029} | 1.250 ^{+0.031} _{−0.035} | 1.247 ^{+0.034} _{−0.036} | 1.234 ^{+0.028} _{−0.027} | 1.230 ^{+0.034} _{−0.037} | |
| $R_{\rm A}$ (R _⊙) | 1.557 ^{+0.084} _{−0.122} | 1.460 ^{+0.051} _{−0.078} | 1.458 ^{+0.050} _{−0.079} | 1.457 ^{+0.051} _{−0.079} | 1.452 ^{+0.052} _{−0.077} | 1.450 ^{+0.050} _{−0.078} | |
| log $g_{\rm A}$ (cgs) | 4.236 ^{+0.035} _{−0.023} | 4.208 ^{+0.045} _{−0.028} | 4.208 ^{+0.045} _{−0.028} | 4.207 ^{+0.045} _{−0.028} | 4.206 ^{+0.045} _{−0.027} | 4.205 ^{+0.045} _{−0.028} | |
| $M_{\rm b}$ (M _{Jup}) | 0.984 ^{+0.095} _{−0.102} | 0.866 ^{+0.071} _{−0.072} | 0.863 ^{+0.071} _{−0.072} | 0.862 ^{+0.072} _{−0.072} | 0.856 ^{+0.071} _{−0.071} | 0.854 ^{+0.071} _{−0.071} | |
| $R_{\rm b}$ (R _{Jup}) | 1.588 ^{+0.074} _{−0.109} | 1.490 ^{+0.058} _{−0.091} | 1.487 ^{+0.058} _{−0.091} | 1.486 ^{+0.059} _{−0.091} | 1.481 ^{+0.058} _{−0.090} | 1.479 ^{+0.058} _{−0.091} | |
| $\rho_{\rm b}$ (ρ _{Jup}) | 0.246 ^{+0.055} _{−0.034} | 0.262 ^{+0.058} _{−0.035} | 0.262 ^{+0.058} _{−0.035} | 0.263 ^{+0.058} _{−0.035} | 0.264 ^{+0.058} _{−0.035} | 0.264 ^{+0.058} _{−0.036} | |
| Θ | 0.0339 ^{+0.0037} _{−0.0031} | 0.0362 ^{+0.0038} _{−0.0032} | 0.0362 ^{+0.0038} _{−0.0032} | 0.0363 ^{+0.0038} _{−0.0032} | 0.0364 ^{+0.0038} _{−0.0033} | 0.0364 ^{+0.0038} _{−0.0033} | |
| a (AU) | 0.04170 ^{+0.00108} _{−0.00136} | 0.03911 ^{+0.00029} _{−0.00031} | 0.03905 ^{+0.00032} _{−0.00037} | 0.03901 ^{+0.00035} _{−0.00038} | 0.03888 ^{+0.00029} _{−0.00028} | 0.03883 ^{+0.00036} _{−0.00039} | |
| Age (Gyr) | | 3.0 ^{+0.5} _{−0.4} | 2.7 ^{+0.5} _{−0.6} | 3.1 ^{+0.7} _{−0.5} | 2.8 ^{+0.4} _{−0.6} | 3.3 ^{+0.6} _{−0.5} | |
| | This work (final) | Paper II | Collier Cameron et al. (2007) | Shporer et al. (2007) | Charbonneau et al. (2007) | Stempels et al. (2007) | TWH08 |
| $M_{\rm A}$ (M _⊙) | 1.243 ^{+0.034 +0.013} _{−0.037 −0.014} | 1.278 ^{+0.040 +0.000} _{−0.043 −0.021} | 1.24 ^{+0.68} _{−0.20} | 1.15 fixed | 1.453 ± 0.032 | 1.25 to 1.35 | 1.301 ^{+0.049} _{−0.047} |
| $R_{\rm A}$ (R _⊙) | 1.455 ^{+0.052 +0.005} _{−0.079 −0.005} | 1.469 ^{+0.060 +0.000} _{−0.086 −0.008} | 1.15 ^{+0.24} _{−0.09} | 1.415 ± 0.074 | 1.45 ± 0.08 | | 1.517 ^{+0.052} _{−0.045} |
| log $g_{\rm A}$ (cgs) | 4.207 ^{+0.045 +0.001} _{−0.028 −0.002} | 4.211 ^{+0.044 +0.000} _{−0.027 −0.002} | | | | 4.28 ± 0.15 | 4.190 ^{+0.020} _{−0.022} |
| $\rho_{\rm A}$ (ρ _⊙) | 0.403 ^{+0.069} _{−0.037} | 0.403 ^{+0.069} _{−0.037} | | | | | 0.390 ^{+0.006} _{−0.042} |
| $M_{\rm b}$ (M _{Jup}) | 0.860 ^{+0.072 +0.006} _{−0.072 −0.006} | 0.907 ^{+0.090 +0.000} _{−0.090 −0.010} | 0.80 to 0.98 | 0.867 ± 0.073 | | | 0.918 ^{+0.091} _{−0.090} |
| $R_{\rm b}$ (R _{Jup}) | 1.484 ^{+0.059 +0.005} _{−0.091 −0.005} | 1.498 ^{+0.060 +0.000} _{−0.093 −0.008} | 1.33 to 2.53 | 1.398 ± 0.076 | 1.443 ± 0.039 | | 1.514 ^{+0.052} _{−0.047} |
| $g_{\rm b}$ (m s ^{−1}) | 9.7 ^{+1.5} _{−1.1} | 10.0 ^{+1.6} _{−1.2} | | | | | 10.2 ^{+1.1} _{−1.1} |
| $\rho_{\rm b}$ (ρ _{Jup}) | 0.263 ^{+0.058 +0.001} _{−0.036 −0.001} | 0.270 ^{+0.061 +0.002} _{−0.039 −0.000} | | | | | 0.264 ^{+0.039} _{−0.035} |
| $T'_{\rm eq}$ (K) | 1800 ⁺³² _{−49} | | | | | | 1811 ⁺³⁴ _{−27} |
| Θ | 0.0363 ^{+0.0038 +0.0001} _{−0.0033 −0.0001} | | | | | | 0.0374 ^{+0.0037} _{−0.0037} |
| a (AU) | 0.03898 ^{+0.00036 +0.00013} _{−0.00039 −0.00014} | 0.03933 ^{+0.00040 +0.00000} _{−0.00044 −0.00022} | 0.0369 to 0.0395 | | | | 0.03946 ^{+0.00049} _{−0.00048} |
| Age (Gyr) | 3.0 ^{+0.7 +0.3} _{−0.6 −0.3} | 3.1 ^{+0.4 +0.3} _{−0.5 −0.3} | | | | | 3.0 ^{+0.6} _{−0.6} |

Table A78. Derived physical properties of the WASP-4 system. The upper part of the table contains the individual results from this work; in each case $g_b = 16.65^{+0.26}_{-0.33} \text{ m s}^{-2}$, $\rho_A = 1.233^{+0.020}_{-0.022} \rho_\odot$ and $T'_{\text{eq}} = 1661^{+30}_{-30} \text{ K}$. The lower part of the table contains the final results and a comparison to published measurements.

| | This work (Mass-radius) | This work (<i>Claret</i> models) | This work (<i>Y</i> ² models) | This work (<i>Teramo</i> models) | This work (<i>VRSS</i> models) | This work (<i>DSEP</i> models) |
|------------------------------------|---|---|---|---|---|---|
| $K_{\rm b}$ (km s ^{−1}) | 184.0 ^{+4.7} _{−4.8} | 189.4 ^{+3.4} _{−4.5} | 188.6 ^{+3.0} _{−3.6} | 185.5 ^{+4.2} _{−2.7} | 185.9 ^{+4.3} _{−2.3} | 186.9 ^{+3.0} _{−3.1} |
| $M_{\rm A}$ (M _⊙) | 0.867 ^{+0.068} _{−0.066} | 0.945 ^{+0.051} _{−0.066} | 0.933 ^{+0.045} _{−0.053} | 0.888 ^{+0.062} _{−0.038} | 0.894 ^{+0.064} _{−0.032} | 0.909 ^{+0.044} _{−0.045} |
| $R_{\rm A}$ (R _⊙) | 0.889 ^{+0.024} _{−0.024} | 0.915 ^{+0.017} _{−0.022} | 0.911 ^{+0.016} _{−0.018} | 0.896 ^{+0.021} _{−0.014} | 0.899 ^{+0.021} _{−0.012} | 0.903 ^{+0.015} _{−0.016} |
| log $g_{\rm A}$ (cgs) | 4.478 ^{+0.012} _{−0.012} | 4.490 ^{+0.009} _{−0.012} | 4.489 ^{+0.009} _{−0.010} | 4.481 ^{+0.011} _{−0.008} | 4.482 ^{+0.011} _{−0.008} | 4.485 ^{+0.008} _{−0.009} |
| $M_{\rm b}$ (M _{Jup}) | 1.194 ^{+0.063} _{−0.063} | 1.265 ^{+0.048} _{−0.062} | 1.254 ^{+0.043} _{−0.050} | 1.213 ^{+0.058} _{−0.038} | 1.219 ^{+0.059} _{−0.033} | 1.233 ^{+0.041} _{−0.044} |
| $R_{\rm b}$ (R _{Jup}) | 1.334 ^{+0.036} _{−0.035} | 1.373 ^{+0.027} _{−0.033} | 1.367 ^{+0.025} _{−0.027} | 1.345 ^{+0.033} _{−0.020} | 1.348 ^{+0.033} _{−0.018} | 1.355 ^{+0.024} _{−0.024} |
| $\rho_{\rm b}$ (ρ _{Jup}) | 0.503 ^{+0.016} _{−0.018} | 0.489 ^{+0.015} _{−0.016} | 0.491 ^{+0.013} _{−0.015} | 0.499 ^{+0.012} _{−0.018} | 0.498 ^{+0.011} _{−0.017} | 0.495 ^{+0.013} _{−0.015} |
| Θ | 0.04679 ^{+0.00137} _{−0.00137} | 0.04546 ^{+0.00124} _{−0.00105} | 0.04565 ^{+0.00104} _{−0.00102} | 0.04642 ^{+0.00088} _{−0.00127} | 0.04630 ^{+0.00082} _{−0.00127} | 0.04605 ^{+0.00099} _{−0.00097} |
| a (AU) | 0.02267 ^{+0.00058} _{−0.00059} | 0.02333 ^{+0.00042} _{−0.00055} | 0.02323 ^{+0.00037} _{−0.00045} | 0.02285 ^{+0.00052} _{−0.00033} | 0.02291 ^{+0.00053} _{−0.00028} | 0.02303 ^{+0.00036} _{−0.00038} |
| Age (Gyr) | | 5.8 ^{+5.2} _{−2.7} | 5.2 ^{+3.1} _{−2.0} | 9.1 ^{+2.0} _{−4.2} | 8.3 ^{+2.5} _{−4.5} | 6.4 ^{+2.3} _{−2.0} |
| | This work (final) | Southworth et al. (2009b) | | Wilson et al. (2008) | Gillon et al. (2009) | Winn et al. (2009a) |
| $M_{\rm A}$ (M _⊙) | 0.914 ^{+0.064} _{−0.066} ^{+0.031} _{−0.026} | 0.940 ^{+0.060} _{−0.069} ^{+0.042} _{−0.000} | | 0.8997 ^{+0.077} _{−0.072} | 0.85 ^{+0.11} _{−0.07} | 0.925 ± 0.040 |
| $R_{\rm A}$ (R _⊙) | 0.905 ^{+0.021} _{−0.022} ^{+0.010} _{−0.009} | 0.914 ^{+0.020} _{−0.023} ^{+0.014} _{−0.000} | | 0.9370 ^{+0.04} _{−0.03} | 0.873 ^{+0.036} _{−0.027} | 0.912 ± 0.013 |
| log $g_{\rm A}$ (cgs) | 4.485 ^{+0.011} _{−0.012} ^{+0.005} _{−0.004} | 4.490 ^{+0.011} _{−0.012} ^{+0.007} _{−0.000} | | 4.45 ^{+0.016} _{−0.029} | 4.487 ^{+0.019} _{−0.15} | 4.4813 ± 0.0080 |
| $\rho_{\rm A}$ (ρ _⊙) | 1.233 ^{+0.020} _{−0.022} | 1.233 ^{+0.020} _{−0.022} | | 1.094 ^{+0.038} _{−0.085} | 1.284 ^{+0.013} _{−0.019} | 1.227 ^{+0.011} _{−0.033} |
| $M_{\rm b}$ (M _{Jup}) | 1.237 ^{+0.059} _{−0.062} ^{+0.028} _{−0.023} | 1.289 ^{+0.090} _{−0.073} ^{+0.039} _{−0.000} | | 1.215 ^{+0.087} _{−0.079} | 1.21 ^{+0.13} _{−0.08} | 1.237 ± 0.064 |
| $R_{\rm b}$ (R _{Jup}) | 1.357 ^{+0.033} _{−0.033} ^{+0.015} _{−0.013} | 1.371 ^{+0.032} _{−0.035} ^{+0.021} _{−0.000} | | 1.416 ^{+0.068} _{−0.043} | 1.304 ^{+0.054} _{−0.042} | 1.365 ± 0.021 |
| $g_{\rm b}$ (m s ^{−1}) | 16.65 ^{+0.26} _{−0.33} | 17.03 ^{+0.97} _{−0.54} | | 13.87 ^{+0.75} _{−1.04} | 16.29 ^{+0.97} _{−0.41} | 16.41 ± 0.75 |
| $\rho_{\rm b}$ (ρ _{Jup}) | 0.495 ^{+0.015} _{−0.018} ^{+0.005} _{−0.006} | 0.500 ^{+0.032} _{−0.021} ^{+0.000} _{−0.008} | | 0.420 ^{+0.032} _{−0.044} | 0.546 ^{+0.039} _{−0.025} | 0.487 ± 0.034 |
| $T'_{\rm eq}$ (K) | 1661 ⁺³⁰ _{−30} | 1662 ± 30 | | 1764 ⁺²¹ _{−9} | 1650 ± 30 | |
| Θ | 0.0460 ^{+0.0012} _{−0.0013} ^{+0.0004} _{−0.0005} | | | | | |
| a (AU) | 0.02307 ^{+0.00053} _{−0.00055} ^{+0.00026} _{−0.00022} | 0.02329 ^{+0.00050} _{−0.00035} ^{+0.00058} _{−0.00000} | | 0.0230 ± 0.001 | 0.02255 ^{+0.00095} _{−0.00065} | 0.02340 ± 0.00060 |
| Age (Gyr) | 7.0 ^{+5.2} _{−4.5} ^{+2.1} _{−1.8} | 6.2 ^{+5.3} _{−2.6} ^{+1.1} _{−0.7} | | more than 2 | | 6.5 ± 2.3 |

Table A79. Derived physical properties of the WASP-5 system. The upper part of the table contains the individual results from this work; in each case $g_b = 28.7 \pm 2.6 \text{ m s}^{-2}$, $\rho_A = 0.803 \pm 0.080 \rho_\odot$ and $T'_{\text{eq}} = 1732 \pm 41 \text{ K}$. The lower part of the table contains the final results and a comparison to published measurements.

| | This work (Mass-radius) | This work (Claret models) | This work (Y^2 models) | This work (Teramo models) | This work (VRSS models) | This work (DSEP models) |
|----------------------------------|-----------------------------------|-----------------------------------|---------------------------------|------------------------------|----------------------------|----------------------------|
| K_b (km s $^{-1}$) | 184.8 ± 5.2 | 181.9 ± 3.3 | 182.0 ± 2.9 | 179.3 ± 2.7 | 179.6 ± 2.9 | 179.9 ± 3.0 |
| M_A (M_\odot) | 1.076 ± 0.091 | 1.026 ± 0.055 | 1.028 ± 0.048 | 0.983 ± 0.044 | 0.988 ± 0.048 | 0.994 ± 0.049 |
| R_A (R_\odot) | 1.103 ± 0.060 | 1.085 ± 0.040 | 1.086 ± 0.041 | 1.070 ± 0.042 | 1.072 ± 0.039 | 1.074 ± 0.039 |
| $\log g_A$ (cgs) | 4.385 ± 0.024 | 4.378 ± 0.030 | 4.379 ± 0.029 | 4.372 ± 0.028 | 4.373 ± 0.030 | 4.374 ± 0.030 |
| M_b (M_{Jup}) | 1.639 ± 0.093 | 1.588 ± 0.058 | 1.590 ± 0.051 | 1.543 ± 0.048 | 1.548 ± 0.051 | 1.555 ± 0.053 |
| R_b (R_{Jup}) | 1.191 ± 0.063 | 1.173 ± 0.056 | 1.173 ± 0.055 | 1.156 ± 0.055 | 1.158 ± 0.055 | 1.160 ± 0.055 |
| ρ_b (ρ_{Jup}) | 0.97 ± 0.13 | 0.98 ± 0.13 | 0.98 ± 0.13 | 1.00 ± 0.14 | 1.00 ± 0.13 | 1.00 ± 0.13 |
| Θ | 0.0709 ± 0.0038 | 0.0721 ± 0.0035 | 0.0720 ± 0.0034 | 0.0731 ± 0.0035 | 0.0730 ± 0.0035 | 0.0728 ± 0.0035 |
| a (AU) | 0.02777 ± 0.00078 | 0.02734 ± 0.00049 | 0.02736 ± 0.00043 | 0.02695 ± 0.00040 | 0.02699 ± 0.00044 | 0.02705 ± 0.00045 |
| Age (Gyr) | | $6.5^{+3.2}_{-2.4}$ | $5.5^{+2.5}_{-1.5}$ | $8.5^{+0.5}_{-3.0}$ | $7.6^{+1.8}_{-2.8}$ | $7.1^{+2.1}_{-2.3}$ |
| <hr/> | | | | | | |
| | This work (final) | Southworth et al. (2009a) | Anderson et al. (2008) | Gillon et al. (2009) | | |
| M_A (M_\odot) | $1.004 \pm 0.055 \pm 0.025$ | $1.021 \pm 0.055 \pm 0.030$ | $0.972^{+0.099}_{-0.079}$ | $0.96^{+0.13}_{-0.09}$ | | |
| R_A (R_\odot) | $1.077 \pm 0.042 \pm 0.009$ | $1.084 \pm 0.040 \pm 0.011$ | $1.026^{+0.073}_{-0.044}$ | $1.029^{+0.056}_{-0.069}$ | | |
| $\log g_A$ (cgs) | $4.375 \pm 0.030 \pm 0.004$ | $4.377 \pm 0.030 \pm 0.004$ | $4.403^{+0.039}_{-0.048}$ | $4.395^{+0.043}_{-0.040}$ | | |
| ρ_A (ρ_\odot) | 0.803 ± 0.080 | $0.803 \pm 0.080 \pm 0.000$ | 0.90 | 0.88 ± 0.12 | | |
| M_b (M_{Jup}) | $1.565 \pm 0.058 \pm 0.026$ | $1.637 \pm 0.075 \pm 0.033$ | $1.58^{+0.13}_{-0.08}$ | $1.58^{+0.13}_{-0.10}$ | | |
| R_b (R_{Jup}) | $1.164 \pm 0.056 \pm 0.009$ | $1.171 \pm 0.056 \pm 0.012$ | $1.090^{+0.094}_{-0.058}$ | $1.087^{+0.068}_{-0.071}$ | | |
| g_b (m s $^{-1}$) | 28.7 ± 2.6 | 29.6 ± 2.8 | $30.5^{+3.2}_{-4.1}$ | $30.5^{+4.0}_{-2.9}$ | | |
| ρ_b (ρ_{Jup}) | $0.99 \pm 0.14 \pm 0.01$ | $1.02 \pm 0.14 \pm 0.01$ | $1.22^{+0.19}_{-0.24}$ | $1.23^{+0.26}_{-0.16}$ | | |
| T'_{eq} (K) | 1732 ± 41 | 1732 ± 80 | 1753^{+51}_{-36} | 1706^{+52}_{-48} | | |
| Θ | $0.0726 \pm 0.0035 \pm 0.0006$ | 0.0755 ± 0.0096 | | | | |
| a (AU) | $0.02714 \pm 0.00049 \pm 0.00022$ | $0.02729 \pm 0.00049 \pm 0.00027$ | $0.02683^{+0.00088}_{-0.00075}$ | $0.0267^{+0.0012}_{-0.0008}$ | | |
| Age (Gyr) | $7.0^{+3.2+1.5}_{-3.0-1.5}$ | $6.8^{+3.0+0.0}_{-2.5-0.7}$ | $1.7 \text{ to } 4.4$ | $5.4^{+4.4}_{-4.3}$ | | |

Table A80. Derived physical properties of the WASP-18 system. The upper part of the table contains the individual results from this work; in each case $g_b = 190 \pm 16 \text{ m s}^{-2}$, $\rho_A = 0.689 \pm 0.062 \rho_\odot$ and $T'_{\text{eq}} = 2392 \pm 51 \text{ K}$. The lower part of the table contains the final results and a comparison to published measurements.

| | This work (Mass-radius) | This work (Claret models) | This work (Y^2 models) | This work (Teramo models) | This work (VRSS models) | This work (DSEP models) |
|----------------------------------|-----------------------------------|-----------------------------------|------------------------------|------------------------------|----------------------------|----------------------------|
| K_b (km s $^{-1}$) | 226.4 ± 6.1 | 233.9 ± 3.2 | 232.5 ± 3.3 | 232.1 ± 3.7 | 232.6 ± 2.6 | 230.5 ± 3.8 |
| M_A (M_\odot) | 1.163 ± 0.093 | 1.282 ± 0.051 | 1.259 ± 0.052 | 1.252 ± 0.059 | 1.262 ± 0.040 | 1.227 ± 0.059 |
| R_A (R_\odot) | 1.191 ± 0.060 | 1.230 ± 0.042 | 1.223 ± 0.041 | 1.221 ± 0.041 | 1.224 ± 0.041 | 1.212 ± 0.040 |
| $\log g_A$ (cgs) | 4.352 ± 0.022 | 4.366 ± 0.026 | 4.363 ± 0.026 | 4.363 ± 0.027 | 4.364 ± 0.026 | 4.360 ± 0.027 |
| M_b (M_{Jup}) | 9.78 ± 0.52 | 10.43 ± 0.28 | 10.31 ± 0.29 | 10.27 ± 0.32 | 10.32 ± 0.22 | 10.13 ± 0.33 |
| R_b (R_{Jup}) | 1.128 ± 0.058 | 1.165 ± 0.054 | 1.158 ± 0.054 | 1.156 ± 0.054 | 1.159 ± 0.053 | 1.149 ± 0.054 |
| ρ_b (ρ_{Jup}) | 6.81 ± 0.93 | 6.59 ± 0.88 | 6.63 ± 0.89 | 6.64 ± 0.89 | 6.63 ± 0.89 | 6.69 ± 0.90 |
| Θ | 0.295 ± 0.015 | 0.286 ± 0.013 | 0.287 ± 0.013 | 0.288 ± 0.014 | 0.287 ± 0.013 | 0.290 ± 0.014 |
| a (AU) | 0.01982 ± 0.00053 | 0.02047 ± 0.00027 | 0.02035 ± 0.00028 | 0.02032 ± 0.00032 | 0.02037 ± 0.00022 | 0.02018 ± 0.00032 |
| Age (Gyr) | | $0.3^{+1.2}_{-0.2}$ | $0.7^{+0.9}_{-0.7}$ | $0.5^{+1.2}_{-0.7}$ | $0.1^{+1.0}_{-0.0}$ | $1.1^{+1.1}_{-0.9}$ |
| <hr/> | | | | | | |
| | This work (final) | Southworth et al. (2009c) | Hellier et al. (2009) | | | |
| M_A (M_\odot) | $1.256 \pm 0.059 \pm 0.029$ | $1.281 \pm 0.052 \pm 0.046$ | 1.25 ± 0.13 | | | |
| R_A (R_\odot) | $1.222 \pm 0.042 \pm 0.010$ | $1.230 \pm 0.045 \pm 0.015$ | $1.216^{+0.067}_{-0.054}$ | | | |
| $\log g_A$ (cgs) | $4.363 \pm 0.027 \pm 0.003$ | $4.366 \pm 0.026 \pm 0.005$ | $4.367^{+0.028}_{-0.042}$ | | | |
| ρ_A (ρ_\odot) | 0.689 ± 0.062 | 0.689 ± 0.062 | $0.707^{+0.056}_{-0.096}$ | | | |
| M_b (M_{Jup}) | $10.29 \pm 0.33 \pm 0.16$ | $10.43 \pm 0.30 \pm 0.24$ | 10.30 ± 0.69 | | | |
| R_b (R_{Jup}) | $1.158 \pm 0.054 \pm 0.009$ | $1.165 \pm 0.055 \pm 0.014$ | $1.106^{+0.072}_{-0.054}$ | | | |
| g_b (m s $^{-1}$) | 190 ± 16 | 191 ± 17 | 194^{+12}_{-21} | | | |
| ρ_b (ρ_{Jup}) | $6.64 \pm 0.90 \pm 0.05$ | $6.60 \pm 0.90 \pm 0.08$ | $7.73^{+0.78}_{-1.27}$ | | | |
| T'_{eq} (K) | 2392 ± 51 | 2392 ± 63 | 2384^{+58}_{-30} | | | |
| Θ | $0.288 \pm 0.014 \pm 0.002$ | | | | | |
| a (AU) | $0.02034 \pm 0.00032 \pm 0.00016$ | $0.02047 \pm 0.00028 \pm 0.00025$ | 0.02026 ± 0.00068 | | | |
| Age (Gyr) | $0.5^{+1.2+0.6}_{-0.9-0.4}$ | $0.0 \text{ to } 2.0$ | $0.5 \text{ to } 1.5$ | | | |

Table A81. Derived physical properties of the XO-1 system. The upper part of the table contains the individual results from this work; in each case $g_b = 15.8 \pm 1.5 \text{ m s}^{-2}$, $\rho_A = 1.242 \pm 0.080 \rho_\odot$ and $T'_{\text{eq}} = 1210 \pm 16 \text{ K}$. The lower part of the table contains the final results and a comparison to published measurements.

| | This work (Mass-radius) | This work (Claret models) | This work (Y^2 models) | This work (Teramo models) | This work (VRSS models) | This work (DSEP models) |
|----------------------------------|-----------------------------------|-----------------------------------|------------------------------|------------------------------|----------------------------|---------------------------------|
| K_b (km s $^{-1}$) | 128.24 ± 3.57 | 137.69 ± 0.83 | 136.35 ± 0.81 | 135.89 ± 1.72 | 136.33 ± 1.44 | 135.37 ± 1.27 |
| M_A (M_\odot) | 0.863 ± 0.072 | 1.068 ± 0.019 | 1.038 ± 0.018 | 1.027 ± 0.039 | 1.037 ± 0.033 | 1.015 ± 0.029 |
| R_A (R_\odot) | 0.886 ± 0.037 | 0.951 ± 0.021 | 0.942 ± 0.022 | 0.938 ± 0.020 | 0.942 ± 0.020 | 0.935 ± 0.020 |
| $\log g_A$ (cgs) | 4.480 ± 0.018 | 4.510 ± 0.019 | 4.506 ± 0.018 | 4.505 ± 0.021 | 4.506 ± 0.020 | 4.503 ± 0.020 |
| M_b (M_{Jup}) | 0.818 ± 0.078 | 0.943 ± 0.074 | 0.924 ± 0.073 | 0.918 ± 0.075 | 0.924 ± 0.074 | 0.911 ± 0.073 |
| R_b (R_{Jup}) | 1.135 ± 0.046 | 1.218 ± 0.037 | 1.207 ± 0.037 | 1.202 ± 0.039 | 1.206 ± 0.038 | 1.198 ± 0.038 |
| ρ_b (ρ_{Jup}) | 0.560 ± 0.068 | 0.521 ± 0.062 | 0.526 ± 0.063 | 0.528 ± 0.063 | 0.526 ± 0.063 | 0.530 ± 0.063 |
| Θ | 0.0776 ± 0.0068 | 0.0723 ± 0.0060 | 0.0730 ± 0.0061 | 0.0732 ± 0.0062 | 0.0730 ± 0.0061 | 0.0735 ± 0.0062 |
| a (AU) | 0.04651 ± 0.00129 | 0.04993 ± 0.00030 | 0.04945 ± 0.00029 | 0.04928 ± 0.00062 | 0.04944 ± 0.00052 | 0.04909 ± 0.00046 |
| Age (Gyr) | | $0.1^{+0.8}_{-0.0}$ | $1.1^{+0.7}_{-0.3}$ | $1.2^{+2.4}_{-1.7}$ | $0.4^{+2.0}_{-0.5}$ | $1.7^{+1.4}_{-1.4}$ |
| | This work (final) | Paper I | Mccullough et al. (2006) | Wilson et al. (2006) | Holman et al. (2006) | TWH08 |
| M_A (M_\odot) | $1.037 \pm 0.039 \pm 0.031$ | $1.066 \pm 0.018 \pm 0.051$ | 1.0 ± 0.03 | | 1.00 ± 0.03 fixed | $1.027^{+0.057}_{-0.061}$ |
| R_A (R_\odot) | $0.942 \pm 0.022 \pm 0.009$ | $0.950 \pm 0.025 \pm 0.015$ | 1.0 ± 0.08 | 1.0 ± 0.08 | $0.928^{+0.018}_{-0.013}$ | $0.934^{+0.037}_{-0.032}$ |
| $\log g_A$ (cgs) | $4.506 \pm 0.021 \pm 0.004$ | $4.510 \pm 0.018 \pm 0.007$ | 4.53 ± 0.065 | | | $4.509^{+0.018}_{-0.027}$ |
| ρ_A (ρ_\odot) | 1.242 ± 0.080 | 1.242 ± 0.080 | | | | $1.333^{+0.010}_{-0.149}$ |
| M_b (M_{Jup}) | $0.924 \pm 0.075 \pm 0.019$ | $0.941 \pm 0.074 \pm 0.030$ | 0.90 ± 0.07 | | 0.9 fixed | $0.918^{+0.081}_{-0.078}$ |
| R_b (R_{Jup}) | $1.206 \pm 0.039 \pm 0.012$ | $1.218 \pm 0.038 \pm 0.020$ | 1.30 ± 0.11 | 1.34 ± 0.12 | $1.184^{+0.028}_{-0.018}$ | $1.206^{+0.047}_{-0.042}$ |
| g_b (m s $^{-1}$) | 15.8 ± 1.5 | 15.8 ± 1.5 | | | | $16.3^{+1.4}_{-1.5}$ |
| ρ_b (ρ_{Jup}) | $0.526 \pm 0.063 \pm 0.005$ | $0.521 \pm 0.063 \pm 0.009$ | 0.41 ± 0.10 | | 0.54 ± 0.06 | $0.524^{+0.077}_{-0.069}$ |
| T'_{eq} (K) | 1210 ± 16 | | | | | 1196^{+23}_{-19} |
| Θ | $0.0730 \pm 0.0062 \pm 0.0007$ | | | | | $0.0744^{+0.0061}_{-0.0061}$ |
| a (AU) | $0.04944 \pm 0.00062 \pm 0.00050$ | $0.04990 \pm 0.00029 \pm 0.00081$ | 0.0488 ± 0.0005 | | | $0.04928^{+0.00089}_{-0.00099}$ |
| Age (Gyr) | $0.9^{+2.4+0.8}_{-1.7-0.8}$ | $1.0^{+1.3+1.5}_{-0.9-1.5}$ | | | | $1.0^{+3.1}_{-0.9}$ |

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