

**Table 1.** Median values and 68% confidence interval for OGLE-TR-1017.

| Parameter                     | Units   | Values   |
|-------------------------------|---|--|
| Stellar Parameters:           |   |  |
| $M_*$ . . . . .               | Mass ( $M_\odot$ ) . . . . .  | $1.90^{+0.91}_{-0.50}$                         |
| $R_*$ . . . . .               | Radius ( $R_\odot$ ) . . . . .  | $1.28^{+0.44}_{-0.16}$                         |
| $R_{*,SED}$ . . . . .         | Radius <sup>1</sup> ( $R_\odot$ ) . . . . .                                       | $1.32^{+0.53}_{-0.19}$                         |
| $L_*$ . . . . .               | Luminosity ( $L_\odot$ ) . . . . .  | $38^{+100}_{-31}$                              |
| $F_{Bol}$ . . . . .           | Bolometric Flux (cgs) . . . . .   | $0.0000000014^{+0.0000000029}_{-0.0000000010}$ |
| $\rho_*$ . . . . .            | Density (cgs) . . . . .   | $1.30^{+1.1}_{-0.82}$                          |
| $\log g$ . . . . .            | Surface gravity (cgs) . . . . .   | $4.49^{+0.23}_{-0.29}$                         |
| $T_{eff}$ . . . . .           | Effective Temperature (K) . . . . .   | $12700^{+5200}_{-5100}$                        |
| $T_{eff,SED}$ . . . . .       | Effective Temperature <sup>1</sup> (K) . . . . .                                  | $12500 \pm 5200$                               |
| [Fe/H] . . . . .              | Metallicity (dex) . . . . .   | $-2.6^{+2.7}_{-1.1}$                           |
| [Fe/H] <sub>0</sub> . . . . . | Initial Metallicity <sup>2</sup> . . . . .  | $-2.5^{+2.7}_{-1.1}$                           |
| Age . . . . .                 | Age (Gyr) . . . . .   | $0.25^{+1.3}_{-0.20}$                          |
| EEP . . . . .                 | Equal Evolutionary Phase <sup>3</sup> . . . . .                                   | $341^{+66}_{-46}$                              |
| $A_V$ . . . . .               | V-band extinction (mag) . . . . .   | $2.38^{+0.33}_{-0.65}$                         |
| $\sigma_{SED}$ . . . . .      | SED photometry error scaling . . . . .  | $43^{+31}_{-33}$                               |
| $\varpi$ . . . . .            | Parallax (mas) . . . . .  | $0.349^{+0.086}_{-0.063}$                      |
| $d$ . . . . .                 | Distance (pc) . . . . .   | $2860^{+630}_{-570}$                           |
| Planetary Parameters:         |   |  |
|                               |   | b  |
| $P$ . . . . .                 | Period (days) . . . . .   | $8.293105^{+0.000017}_{-0.000019}$             |
| $R_P$ . . . . .               | Radius ( $R_J$ ) . . . . .  | $1.34^{+0.62}_{-0.18}$                         |
| $M_P$ . . . . .               | Mass <sup>4</sup> ( $M_J$ ) . . . . .   | $4.3^{+72}_{-3.9}$                             |
| $T_C$ . . . . .               | Time of conjunction <sup>5</sup> (BJD <sub>TDB</sub> ) . . . . .                  | $2455378.3103^{+0.0039}_{-0.0040}$             |
| $T_T$ . . . . .               | Time of minimum projected separation <sup>6</sup> (BJD <sub>TDB</sub> ) . . . . . | $2455378.3103^{+0.0039}_{-0.0040}$             |
| $T_0$ . . . . .               | Optimal conjunction Time <sup>7</sup> (BJD <sub>TDB</sub> ) . . . . .             | $2456804.7243^{+0.0023}_{-0.0025}$             |
| $a$ . . . . .                 | Semi-major axis (AU) . . . . .  | $0.0998^{+0.014}_{-0.0100}$                    |
| $i$ . . . . .                 | Inclination (Degrees) . . . . .   | $87.9^{+1.5}_{-1.9}$                           |
| $T_{eq}$ . . . . .            | Equilibrium temperature <sup>8</sup> (K) . . . . .                                | $2200^{+650}_{-690}$                           |
| $\tau_{circ}$ . . . . .       | Tidal circularization timescale (Gyr) . . . . .                                   | $70^{+810}_{-70}$                              |
| $K$ . . . . .                 | RV semi-amplitude <sup>4</sup> (m/s) . . . . .                                    | $260^{+4500}_{-230}$                           |
| $R_P/R_*$ . . . . .           | Radius of planet in stellar radii . . . . .                                       | $0.1101^{+0.0084}_{-0.0051}$                   |
| $a/R_*$ . . . . .             | Semi-major axis in stellar radii . . . . .  | $16.9^{+3.7}_{-4.8}$                           |
| $\delta$ . . . . .            | $(R_P/R_*)^2$ . . . . .   | $0.0121^{+0.0019}_{-0.0011}$                   |
| $\delta_I$ . . . . .          | Transit depth in I (fraction) . . . . .   | $0.01257^{+0.0010}_{-0.00090}$                 |
| $\delta_V$ . . . . .          | Transit depth in V (fraction) . . . . .   | $0.01245^{+0.00084}_{-0.00076}$                |
| $\tau$ . . . . .              | Ingress/egress transit duration (days) . . . . .                                  | $0.0220^{+0.030}_{-0.0081}$                    |
| $T_{14}$ . . . . .            | Total transit duration (days) . . . . .   | $0.1452^{+0.017}_{-0.0083}$                    |

Table 1 continued on next page

Table 1 (continued)

| Parameter                 | Units   | Values   |   |
|---------------------------|---|--|---|
| $T_{FWHM}$ ..             | FWHM transit duration (days) .....  | 0.1198 <sup>+0.0074</sup> <sub>-0.014</sub>              |   |
| $b$ .....                 | Transit Impact parameter .....  | 0.62 <sup>+0.22</sup> <sub>-0.41</sub>                   |   |
| $\delta_{S,2.5\mu m}$ ..  | Blackbody eclipse depth at 2.5 $\mu m$ (ppm) .....                          | 530 $\pm$ 190  |   |
| $\delta_{S,5.0\mu m}$ ..  | Blackbody eclipse depth at 5.0 $\mu m$ (ppm) .....                          | 1110 <sup>+240</sup> <sub>-150</sub>                     |   |
| $\delta_{S,7.5\mu m}$ ..  | Blackbody eclipse depth at 7.5 $\mu m$ (ppm) .....                          | 1390 <sup>+350</sup> <sub>-180</sub>                     |   |
| $\rho_P$ .....            | Density <sup>4</sup> (cgs) .....  | 2.8 <sup>+33</sup> <sub>-2.7</sub>                       |   |
| $\log g_P$ .....          | Surface gravity <sup>4</sup> .....  | 3.8 <sup>+1.2</sup> <sub>-1.4</sub>                      |   |
| $\Theta$ .....            | Safronov Number .....   | 0.34 <sup>+5.6</sup> <sub>-0.31</sub>                    |   |
| $\langle F \rangle$ ..... | Incident Flux (10 <sup>9</sup> erg s <sup>-1</sup> cm <sup>-2</sup> ) ..... | 5.3 <sup>+9.7</sup> <sub>-4.1</sub>                      |   |
| $T_P$ .....               | Time of Periastron (BJD <sub>TDB</sub> ) .....                              | 2455378.3103 <sup>+0.0039</sup> <sub>-0.0040</sub>       |   |
| $T_S$ .....               | Time of eclipse (BJD <sub>TDB</sub> ) .....                                 | 2455382.4568 <sup>+0.0039</sup> <sub>-0.0040</sub>       |   |
| $T_A$ .....               | Time of Ascending Node (BJD <sub>TDB</sub> ) .....                          | 2455384.5301 <sup>+0.0039</sup> <sub>-0.0040</sub>       |   |
| $T_D$ .....               | Time of Descending Node (BJD <sub>TDB</sub> ) .....                         | 2455380.3835 <sup>+0.0039</sup> <sub>-0.0040</sub>       |   |
| $V_c/V_e$ .....           | .....   | 1.00   |   |
| $M_P \sin i$ ..           | Minimum mass <sup>4</sup> ( $M_J$ ) .....                                   | 4.3 <sup>+72</sup> <sub>-3.9</sub>                       |   |
| $M_P/M_*$ .....           | Mass ratio <sup>4</sup> .....   | 0.0019 <sup>+0.031</sup> <sub>-0.0017</sub>              |   |
| $d/R_*$ .....             | Separation at mid transit .....   | 16.9 <sup>+3.7</sup> <sub>-4.8</sub>                     |   |
| $P_T$ .....               | A priori non-grazing transit prob .....                                     | 0.0528 <sup>+0.020</sup> <sub>-0.0092</sub>              |   |
| $P_{T,G}$ .....           | A priori transit prob .....   | 0.066 <sup>+0.027</sup> <sub>-0.012</sub>                |   |
| Wavelength Parameters:    |   | I  | V   |
| $u_1$ .....               | linear limb-darkening coeff .....   | 0.140 <sup>+0.062</sup> <sub>-0.056</sub>                | 0.193 <sup>+0.12</sup> <sub>-0.078</sub>              |
| $u_2$ .....               | quadratic limb-darkening coeff .....  | 0.231 <sup>+0.091</sup> <sub>-0.058</sub>                | 0.305 <sup>+0.062</sup> <sub>-0.060</sub>             |
| Transit Parameters:       |   | OGLE UT 2010-06-30 (I)                                   | OGLE UT 2010-06-30 (V)                                |
| $\sigma^2$ .....          | Added Variance .....  | 0.00005366 <sup>+0.00000073</sup> <sub>-0.00000074</sub> | 0.0000455 <sup>+0.0000064</sup> <sub>-0.0000061</sub> |
| $F_0$ .....               | Baseline flux .....   | 0.999927 <sup>+0.000067</sup> <sub>-0.000068</sub>       | 0.99983 <sup>+0.00060</sup> <sub>-0.00056</sub>       |

See Table 3 in Eastman, J. et al., 2019, arXiv:1907.09480 for a detailed description of all parameters

<sup>1</sup>This value ignores the systematic error and is for reference only

<sup>2</sup>The metallicity of the star at birth

<sup>3</sup>Corresponds to static points in a star's evolutionary history. See §2 in Dotter, A., 2016, ApJS, 222, 8

<sup>4</sup>Uses measured radius and estimated mass from Chen, J., & Kipping, D. 2017, ApJ, 834, 17

<sup>5</sup>Time of conjunction is commonly reported as the "transit time"

<sup>6</sup>Time of minimum projected separation is a more correct "transit time"

<sup>7</sup>Optimal time of conjunction minimizes the covariance between  $T_C$  and Period

<sup>8</sup>Assumes no albedo and perfect redistribution