

**Table 1.** Median values and 68% confidence interval for OGLE-TR-1035.

| Parameter                     | Units   | Values   |
|-------------------------------|---|--|
| Stellar Parameters:           |   |  |
| $M_*$ . . . . .               | Mass ( $M_\odot$ ) . . . . .  | $1.633^{+0.096}_{-0.092}$                              |
| $R_*$ . . . . .               | Radius ( $R_\odot$ ) . . . . .  | $1.601^{+0.070}_{-0.067}$                              |
| $R_{*,SED}$ . . . . .         | Radius <sup>1</sup> ( $R_\odot$ ) . . . . .                                       | $1.703^{+0.060}_{-0.056}$                              |
| $L_*$ . . . . .               | Luminosity ( $L_\odot$ ) . . . . .  | $6.33^{+1.2}_{-0.95}$                                  |
| $F_{Bol}$ . . . . .           | Bolometric Flux (cgs) . . . . .   | $0.000000000127^{+0.0000000000021}_{-0.0000000000017}$ |
| $\rho_*$ . . . . .            | Density (cgs) . . . . .   | $0.563^{+0.073}_{-0.070}$                              |
| $\log g$ . . . . .            | Surface gravity (cgs) . . . . .   | $4.244^{+0.037}_{-0.042}$                              |
| $T_{eff}$ . . . . .           | Effective Temperature (K) . . . . .   | $7230^{+330}_{-290}$                                   |
| $T_{eff,SED}$ . . . . .       | Effective Temperature <sup>1</sup> (K) . . . . .                                  | $7030^{+320}_{-290}$                                   |
| [Fe/H] . . . . .              | Metallicity (dex) . . . . .   | $0.15^{+0.16}_{-0.13}$                                 |
| [Fe/H] <sub>0</sub> . . . . . | Initial Metallicity <sup>2</sup> . . . . .  | $0.259^{+0.11}_{-0.099}$                               |
| Age . . . . .                 | Age (Gyr) . . . . .   | $0.26^{+0.43}_{-0.19}$                                 |
| EEP . . . . .                 | Equal Evolutionary Phase <sup>3</sup> . . . . .                                   | $299^{+28}_{-39}$                                      |
| $A_V$ . . . . .               | V-band extinction (mag) . . . . .   | $1.35^{+0.17}_{-0.16}$                                 |
| $\sigma_{SED}$ . . . . .      | SED photometry error scaling . . . . .  | $10.7^{+1.5}_{-1.2}$                                   |
| $\varpi$ . . . . .            | Parallax (mas) . . . . .  | $0.792^{+0.026}_{-0.025}$                              |
| $d$ . . . . .                 | Distance (pc) . . . . .   | $1262^{+42}_{-39}$                                     |
| Planetary Parameters:         |   |  |
|                               |   | b  |
| $P$ . . . . .                 | Period (days) . . . . .   | $55.27448^{+0.00041}_{-0.00038}$                       |
| $R_P$ . . . . .               | Radius ( $R_J$ ) . . . . .  | $1.73 \pm 0.11$  |
| $M_P$ . . . . .               | Mass <sup>4</sup> ( $M_J$ ) . . . . .   | $0.399^{+0.012}_{-0.023}$                              |
| $T_C$ . . . . .               | Time of conjunction <sup>5</sup> (BJD <sub>TDB</sub> ) . . . . .                  | $2455379.163^{+0.015}_{-0.016}$                        |
| $T_T$ . . . . .               | Time of minimum projected separation <sup>6</sup> (BJD <sub>TDB</sub> ) . . . . . | $2455379.163^{+0.015}_{-0.016}$                        |
| $T_0$ . . . . .               | Optimal conjunction Time <sup>7</sup> (BJD <sub>TDB</sub> ) . . . . .             | $2457369.0442^{+0.0069}_{-0.0065}$                     |
| $a$ . . . . .                 | Semi-major axis (AU) . . . . .  | $0.3344 \pm 0.0064$                                    |
| $i$ . . . . .                 | Inclination (Degrees) . . . . .   | $88.950^{+0.067}_{-0.068}$                             |
| $T_{eq}$ . . . . .            | Equilibrium temperature <sup>8</sup> (K) . . . . .                                | $763^{+29}_{-25}$                                      |
| $\tau_{circ}$ . . . . .       | Tidal circularization timescale (Gyr) . . . . .                                   | $3760^{+1400}_{-980}$                                  |
| $K$ . . . . .                 | RV semi-amplitude <sup>4</sup> (m/s) . . . . .                                    | $15.24^{+0.85}_{-0.98}$                                |
| $R_P/R_*$ . . . . .           | Radius of planet in stellar radii . . . . .                                       | $0.1112 \pm 0.0059$                                    |
| $a/R_*$ . . . . .             | Semi-major axis in stellar radii . . . . .  | $45.0 \pm 1.9$   |
| $\delta$ . . . . .            | $(R_P/R_*)^2$ . . . . .   | $0.0124^{+0.0014}_{-0.0013}$                           |
| $\delta_I$ . . . . .          | Transit depth in I (fraction) . . . . .   | $0.0121 \pm 0.0012$                                    |
| $\delta_V$ . . . . .          | Transit depth in V (fraction) . . . . .   | $0.0117 \pm 0.0011$                                    |
| $\tau$ . . . . .              | Ingress/egress transit duration (days) . . . . .                                  | $0.081^{+0.014}_{-0.011}$                              |
| $T_{14}$ . . . . .            | Total transit duration (days) . . . . .   | $0.292^{+0.014}_{-0.013}$                              |

Table 1 continued on next page

Table 1 (continued)

| Parameter                     | Units   | Values                                   |   |
|-------------------------------|---|--|---|
| $T_{FWHM}$ . . .              | FWHM transit duration (days) . . . . .                                | $0.210^{+0.020}_{-0.021}$                |   |
| $b$ . . . . .                 | Transit Impact parameter . . . . .                                    | $0.825^{+0.027}_{-0.032}$                |   |
| $\delta_{S,2.5\mu m}$ . . .   | Blackbody eclipse depth at $2.5\mu m$ (ppm) . . . . .                 | $8.0^{+2.1}_{-1.6}$                      |   |
| $\delta_{S,5.0\mu m}$ . . .   | Blackbody eclipse depth at $5.0\mu m$ (ppm) . . . . .                 | $142^{+20}_{-18}$                        |   |
| $\delta_{S,7.5\mu m}$ . . .   | Blackbody eclipse depth at $7.5\mu m$ (ppm) . . . . .                 | $331^{+40}_{-37}$                        |   |
| $\rho_P$ . . . . .            | Density <sup>4</sup> (cgs) . . . . .                                  | $0.093^{+0.020}_{-0.015}$                |   |
| $\log g_P$ . . . . .          | Surface gravity <sup>4</sup> . . . . .                                | $2.510^{+0.056}_{-0.053}$                |   |
| $\Theta$ . . . . .            | Safronov Number . . . . .   | $0.0928^{+0.0084}_{-0.0075}$             |   |
| $\langle F \rangle$ . . . . . | Incident Flux ( $10^9 \text{ erg s}^{-1} \text{ cm}^{-2}$ ) . . . . . | $0.0771^{+0.012}_{-0.0097}$              |   |
| $T_P$ . . . . .               | Time of Periastron (BJD <sub>TDB</sub> ) . . . . .                    | $2455379.163^{+0.015}_{-0.016}$          |   |
| $T_S$ . . . . .               | Time of eclipse (BJD <sub>TDB</sub> ) . . . . .                       | $2455406.800^{+0.015}_{-0.016}$          |   |
| $T_A$ . . . . .               | Time of Ascending Node (BJD <sub>TDB</sub> ) . . . . .                | $2455420.619^{+0.015}_{-0.016}$          |   |
| $T_D$ . . . . .               | Time of Descending Node (BJD <sub>TDB</sub> ) . . . . .               | $2455392.982^{+0.015}_{-0.016}$          |   |
| $V_c/V_e$ . . . . .           | . . . . .   | 1.00                                     |   |
| $M_P \sin i$ . . . . .        | Minimum mass <sup>4</sup> ( $M_J$ ) . . . . .                         | $0.399^{+0.012}_{-0.023}$                |   |
| $M_P/M_*$ . . . . .           | Mass ratio <sup>4</sup> . . . . .                                     | $0.000231^{+0.000018}_{-0.000017}$       |   |
| $d/R_*$ . . . . .             | Separation at mid transit . . . . .                                   | $45.0 \pm 1.9$                           |   |
| $P_T$ . . . . .               | A priori non-grazing transit prob . . . . .                           | $0.01976^{+0.00092}_{-0.00081}$          |   |
| $P_{T,G}$ . . . . .           | A priori transit prob . . . . .                                       | $0.02471^{+0.0011}_{-0.00098}$           |   |
| Wavelength Parameters:        |   | I  | V                                       |
| $u_1$ . . . . .               | linear limb-darkening coeff . . . . .                                 | $0.141 \pm 0.052$                        | $0.294 \pm 0.053$                       |
| $u_2$ . . . . .               | quadratic limb-darkening coeff . . . . .                              | $0.327 \pm 0.051$                        | $0.344 \pm 0.050$                       |
| Transit Parameters:           |   | OGLE UT 2010-07-01 (I)                   | OGLE UT 2010-07-01 (V)                  |
| $\sigma^2$ . . . . .          | Added Variance . . . . .  | $0.00002660^{+0.00000050}_{-0.00000049}$ | $0.0000349^{+0.00000046}_{-0.00000040}$ |
| $F_0$ . . . . .               | Baseline flux . . . . .   | $1.000169 \pm 0.000060$                  | $0.99916 \pm 0.00046$                   |

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