

**Table 1.** Median values and 68% confidence interval for OGLE-TR-1033.

Parameter	Units	Values
Stellar Parameters:		
$M_*$ . . . . .	Mass ( $M_\odot$ ) . . . . .	$0.883^{+0.12}_{-0.083}$
$R_*$ . . . . .	Radius ( $R_\odot$ ) . . . . .	$1.725^{+0.15}_{-0.082}$
$R_{*,SED}$ . . . . .	Radius <sup>1</sup> ( $R_\odot$ ) . . . . .	$1.85^{+0.16}_{-0.12}$
$L_*$ . . . . .	Luminosity ( $L_\odot$ ) . . . . .	$6.9^{+2.9}_{-1.7}$
$F_{Bol}$ . . . . .	Bolometric Flux (cgs) . . . . .	$0.00000000063^{+0.000000000019}_{-0.000000000012}$
$\rho_*$ . . . . .	Density (cgs) . . . . .	$0.248^{+0.029}_{-0.047}$
$\log g$ . . . . .	Surface gravity (cgs) . . . . .	$3.916^{+0.041}_{-0.062}$
$T_{eff}$ . . . . .	Effective Temperature (K) . . . . .	$7090^{+550}_{-420}$
$T_{eff,SED}$ . . . . .	Effective Temperature <sup>1</sup> (K) . . . . .	$6890^{+550}_{-430}$
[Fe/H] . . . . .	Metallicity (dex) . . . . .	$-3.57^{+1.1}_{-0.42}$
[Fe/H] <sub>0</sub> . . . . .	Initial Metallicity <sup>2</sup> . . . . .	$-3.10^{+1.1}_{-0.42}$
Age . . . . .	Age (Gyr) . . . . .	$8.1^{+3.2}_{-2.8}$
EEP . . . . .	Equal Evolutionary Phase <sup>3</sup> . . . . .	$451.0^{+5.5}_{-5.1}$
$A_V$ . . . . .	V-band extinction (mag) . . . . .	$2.91^{+0.32}_{-0.26}$
$\sigma_{SED}$ . . . . .	SED photometry error scaling . . . . .	$11.4^{+1.8}_{-1.4}$
$\varpi$ . . . . .	Parallax (mas) . . . . .	$0.533^{+0.038}_{-0.041}$
$d$ . . . . .	Distance (pc) . . . . .	$1880^{+160}_{-130}$
Planetary Parameters:		
		b
$P$ . . . . .	Period (days) . . . . .	$17.909180 \pm 0.000077$
$R_P$ . . . . .	Radius ( $R_J$ ) . . . . .	$1.381^{+0.13}_{-0.072}$
$M_P$ . . . . .	Mass <sup>4</sup> ( $M_J$ ) . . . . .	$0.93^{+3.2}_{-0.53}$
$T_C$ . . . . .	Time of conjunction <sup>5</sup> (BJD <sub>TDB</sub> ) . . . . .	$2455381.5566^{+0.0072}_{-0.0077}$
$T_T$ . . . . .	Time of minimum projected separation <sup>6</sup> (BJD <sub>TDB</sub> ) . . . . .	$2455381.5566^{+0.0072}_{-0.0077}$
$T_0$ . . . . .	Optimal conjunction Time <sup>7</sup> (BJD <sub>TDB</sub> ) . . . . .	$2456903.8368^{+0.0034}_{-0.0035}$
$a$ . . . . .	Semi-major axis (AU) . . . . .	$0.1286^{+0.0055}_{-0.0041}$
$i$ . . . . .	Inclination (Degrees) . . . . .	$89.18^{+0.58}_{-0.82}$
$T_{eq}$ . . . . .	Equilibrium temperature <sup>8</sup> (K) . . . . .	$1258^{+92}_{-73}$
$\tau_{circ}$ . . . . .	Tidal circularization timescale (Gyr) . . . . .	$140^{+600}_{-100}$
$K$ . . . . .	RV semi-amplitude <sup>4</sup> (m/s) . . . . .	$77^{+280}_{-46}$
$R_P/R_*$ . . . . .	Radius of planet in stellar radii . . . . .	$0.0824 \pm 0.0019$
$a/R_*$ . . . . .	Semi-major axis in stellar radii . . . . .	$16.15^{+0.62}_{-1.1}$
$\delta$ . . . . .	$(R_P/R_*)^2$ . . . . .	$0.00680^{+0.00033}_{-0.00031}$
$\delta_I$ . . . . .	Transit depth in I (fraction) . . . . .	$0.00742^{+0.00034}_{-0.00035}$
$\delta_V$ . . . . .	Transit depth in V (fraction) . . . . .	$0.00799^{+0.00043}_{-0.00040}$
$\tau$ . . . . .	Ingress/egress transit duration (days) . . . . .	$0.0299^{+0.0051}_{-0.0017}$
$T_{14}$ . . . . .	Total transit duration (days) . . . . .	$0.3724^{+0.0092}_{-0.0096}$

Table 1 continued on next page

Table 1 (continued)

Parameter	Units	Values	
$T_{FWHM}$ . . .	FWHM transit duration (days) . . . . .	0.3410 <sup>+0.0082</sup> <sub>-0.0085</sub>	
$b$ . . . . .	Transit Impact parameter . . . . .	0.23 <sup>+0.20</sup> <sub>-0.16</sub>	
$\delta_{S,2.5\mu m}$ . . .	Blackbody eclipse depth at 2.5 $\mu m$ (ppm) . . . . .	88 <sup>+23</sup> <sub>-17</sub>	
$\delta_{S,5.0\mu m}$ . . .	Blackbody eclipse depth at 5.0 $\mu m$ (ppm) . . . . .	382 <sup>+48</sup> <sub>-38</sub>	
$\delta_{S,7.5\mu m}$ . . .	Blackbody eclipse depth at 7.5 $\mu m$ (ppm) . . . . .	583 <sup>+56</sup> <sub>-43</sub>	
$\rho_P$ . . . . .	Density <sup>4</sup> (cgs) . . . . .	0.44 <sup>+1.7</sup> <sub>-0.30</sub>	
$\log g_P$ . . . . .	Surface gravity <sup>4</sup> . . . . .	3.08 <sup>+0.68</sup> <sub>-0.46</sub>	
$\Theta$ . . . . .	Safronov Number . . . . .	0.19 <sup>+0.73</sup> <sub>-0.12</sub>	
$\langle F \rangle$ . . . . .	Incident Flux (10 <sup>9</sup> erg s <sup>-1</sup> cm <sup>-2</sup> ) . . . . .	0.57 <sup>+0.19</sup> <sub>-0.12</sub>	
$T_P$ . . . . .	Time of Periastron (BJD <sub>TDB</sub> ) . . . . .	2455381.5566 <sup>+0.0072</sup> <sub>-0.0077</sub>	
$T_S$ . . . . .	Time of eclipse (BJD <sub>TDB</sub> ) . . . . .	2455390.5112 <sup>+0.0072</sup> <sub>-0.0077</sub>	
$T_A$ . . . . .	Time of Ascending Node (BJD <sub>TDB</sub> ) . . . . .	2455394.9885 <sup>+0.0072</sup> <sub>-0.0076</sub>	
$T_D$ . . . . .	Time of Descending Node (BJD <sub>TDB</sub> ) . . . . .	2455386.0339 <sup>+0.0072</sup> <sub>-0.0077</sub>	
$V_c/V_e$ . . . . .	. . . . .	1.00	
$M_P \sin i$ . . . . .	Minimum mass <sup>4</sup> ( $M_J$ ) . . . . .	0.93 <sup>+3.2</sup> <sub>-0.53</sub>	
$M_P/M_*$ . . . . .	Mass ratio <sup>4</sup> . . . . .	0.00099 <sup>+0.0036</sup> <sub>-0.00059</sub>	
$d/R_*$ . . . . .	Separation at mid transit . . . . .	16.15 <sup>+0.62</sup> <sub>-1.1</sub>	
$P_T$ . . . . .	A priori non-grazing transit prob . . . . .	0.0568 <sup>+0.0042</sup> <sub>-0.0021</sub>	
$P_{T,G}$ . . . . .	A priori transit prob . . . . .	0.0670 <sup>+0.0050</sup> <sub>-0.0025</sub>	
Wavelength Parameters:		I	V
$u_1$ . . . . .	linear limb-darkening coeff . . . . .	0.183 <sup>+0.055</sup> <sub>-0.052</sub>	0.330 <sup>+0.054</sup> <sub>-0.053</sub>
$u_2$ . . . . .	quadratic limb-darkening coeff . . . . .	0.286 <sup>+0.052</sup> <sub>-0.055</sub>	0.303 $\pm$ 0.051
Transit Parameters:		OGLE UT 2010-07-04 (I)	OGLE UT 2010-07-04 (V)
$\sigma^2$ . . . . .	Added Variance . . . . .	0.00001822 $\pm$ 0.00000032	0.0000359 <sup>+0.0000060</sup> <sub>-0.0000051</sub>
$F_0$ . . . . .	Baseline flux . . . . .	1.000182 $\pm$ 0.000043	1.00050 <sup>+0.00051</sup> <sub>-0.00050</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