

**Table 1.** Median values and 68% confidence interval for OGLE-TR-1090.

Parameter	Units	Values
Stellar Parameters:		
$M_*$	Mass ( $M_\odot$ )	$1.38^{+0.16}_{-0.26}$
$R_*$	Radius ( $R_\odot$ )	$1.83^{+0.25}_{-0.11}$
$R_{*,SED}$	Radius <sup>1</sup> ( $R_\odot$ )	$1.93^{+0.20}_{-0.13}$
$L_*$	Luminosity ( $L_\odot$ )	$5.6^{+1.4}_{-1.0}$
$F_{Bol}$	Bolometric Flux (cgs)	$0.000000000388^{+0.0000000000063}_{-0.0000000000047}$
$\rho_*$	Density (cgs)	$0.310^{+0.073}_{-0.11}$
$\log g$	Surface gravity (cgs)	$4.044^{+0.072}_{-0.15}$
$T_{eff}$	Effective Temperature (K)	$6490^{+340}_{-320}$
$T_{eff,SED}$	Effective Temperature <sup>1</sup> (K)	$6350^{+340}_{-320}$
[Fe/H]	Metallicity (dex)	$-0.12^{+0.16}_{-0.47}$
[Fe/H] <sub>0</sub>	Initial Metallicity <sup>2</sup>	$0.01^{+0.18}_{-0.42}$
Age	Age (Gyr)	$2.5^{+2.8}_{-1.1}$
EEP	Equal Evolutionary Phase <sup>3</sup>	$390^{+64}_{-41}$
$A_V$	V-band extinction (mag)	$0.34^{+0.19}_{-0.18}$
$\sigma_{SED}$	SED photometry error scaling	$7.35^{+1.2}_{-0.96}$
$\varpi$	Parallax (mas)	$0.469^{+0.033}_{-0.037}$
$d$	Distance (pc)	$2130^{+180}_{-140}$
Planetary Parameters:		
		b
$P$	Period (days)	$6.555184^{+0.000038}_{-0.000039}$
$R_P$	Radius ( $R_J$ )	$1.283^{+0.23}_{-0.091}$
$M_P$	Mass <sup>4</sup> ( $M_J$ )	$29^{+100}_{-27}$
$T_C$	Time of conjunction <sup>5</sup> (BJD <sub>TDB</sub> )	$2455376.6412^{+0.0096}_{-0.0093}$
$T_T$	Time of minimum projected separation <sup>6</sup> (BJD <sub>TDB</sub> )	$2455376.6412^{+0.0096}_{-0.0093}$
$T_0$	Optimal conjunction Time <sup>7</sup> (BJD <sub>TDB</sub> )	$2456897.4439^{+0.0032}_{-0.0030}$
$a$	Semi-major axis (AU)	$0.0771^{+0.0031}_{-0.0048}$
$i$	Inclination (Degrees)	$87.7^{+1.5}_{-2.0}$
$T_{eq}$	Equilibrium temperature <sup>8</sup> (K)	$1548^{+85}_{-66}$
$\tau_{circ}$	Tidal circularization timescale (Gyr)	$130^{+230}_{-120}$
$K$	RV semi-amplitude <sup>4</sup> (m/s)	$2600^{+8800}_{-2400}$
$R_P/R_*$	Radius of planet in stellar radii	$0.0725^{+0.0029}_{-0.0026}$
$a/R_*$	Semi-major axis in stellar radii	$8.98^{+0.62}_{-1.1}$
$\delta$	$(R_P/R_*)^2$	$0.00525^{+0.00043}_{-0.00037}$
$\delta_I$	Transit depth in I (fraction)	$0.00572^{+0.00039}_{-0.00038}$
$\delta_V$	Transit depth in V (fraction)	$0.00613^{+0.00041}_{-0.00040}$
$\tau$	Ingress/egress transit duration (days)	$0.0180^{+0.0067}_{-0.0023}$
$T_{14}$	Total transit duration (days)	$0.2352^{+0.0085}_{-0.0076}$

Table 1 continued on next page

Table 1 (continued)

Parameter	Units	Values	
$T_{FWHM}$ ..	FWHM transit duration (days) .....	0.2154 <sup>+0.0070</sup> <sub>-0.0068</sub>	
$b$ .....	Transit Impact parameter .....	0.36 ± 0.23	
$\delta_{S,2.5\mu m}$ ..	Blackbody eclipse depth at 2.5 $\mu m$ (ppm) .....	182 <sup>+52</sup> <sub>-27</sub>	
$\delta_{S,5.0\mu m}$ ..	Blackbody eclipse depth at 5.0 $\mu m$ (ppm) .....	530 <sup>+110</sup> <sub>-55</sub>	
$\delta_{S,7.5\mu m}$ ..	Blackbody eclipse depth at 7.5 $\mu m$ (ppm) .....	723 <sup>+130</sup> <sub>-68</sub>	
$\rho_P$ .....	Density <sup>4</sup> (cgs) .....	21 <sup>+33</sup> <sub>-20</sub>	
$\log g_P$ .....	Surface gravity <sup>4</sup> .....	4.70 <sup>+0.48</sup> <sub>-1.2</sub>	
$\Theta$ .....	Safronov Number .....	2.8 <sup>+7.8</sup> <sub>-2.6</sub>	
$\langle F \rangle$ .....	Incident Flux (10 <sup>9</sup> erg s <sup>-1</sup> cm <sup>-2</sup> ) .....	1.30 <sup>+0.31</sup> <sub>-0.21</sub>	
$T_P$ .....	Time of Periastron (BJD <sub>TDB</sub> ) .....	2455376.6412 <sup>+0.0096</sup> <sub>-0.0093</sub>	
$T_S$ .....	Time of eclipse (BJD <sub>TDB</sub> ) .....	2455379.9188 <sup>+0.0096</sup> <sub>-0.0093</sub>	
$T_A$ .....	Time of Ascending Node (BJD <sub>TDB</sub> ) .....	2455381.5576 <sup>+0.0095</sup> <sub>-0.0093</sub>	
$T_D$ .....	Time of Descending Node (BJD <sub>TDB</sub> ) .....	2455378.2800 <sup>+0.0095</sup> <sub>-0.0093</sub>	
$V_c/V_e$ .....	.....	1.00	
$M_P \sin i$ ..	Minimum mass <sup>4</sup> ( $M_J$ ) .....	29 <sup>+100</sup> <sub>-27</sub>	
$M_P/M_*$ .....	Mass ratio <sup>4</sup> .....	0.022 <sup>+0.076</sup> <sub>-0.020</sub>	
$d/R_*$ .....	Separation at mid transit .....	8.98 <sup>+0.62</sup> <sub>-1.1</sub>	
$P_T$ .....	A priori non-grazing transit prob .....	0.1034 <sup>+0.015</sup> <sub>-0.0067</sub>	
$P_{T,G}$ .....	A priori transit prob .....	0.1193 <sup>+0.018</sup> <sub>-0.0077</sub>	
Wavelength Parameters:		I	V
$u_1$ .....	linear limb-darkening coeff .....	0.198 ± 0.055	0.352 <sup>+0.058</sup> <sub>-0.056</sub>
$u_2$ .....	quadratic limb-darkening coeff .....	0.313 <sup>+0.050</sup> <sub>-0.051</sub>	0.311 ± 0.052
Transit Parameters:		OGLE UT 2010-06-29 (I)	OGLE UT 2010-06-29 (V)
$\sigma^2$ .....	Added Variance .....	0.00003264 ± 0.00000049	0.0000361 <sup>+0.0000045</sup> <sub>-0.0000039</sub>
$F_0$ .....	Baseline flux .....	1.000372 ± 0.000055	1.00002 <sup>+0.00045</sup> <sub>-0.00044</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