

**Table 1.** Median values and 68% confidence interval for OGLE-TR-1070.

Parameter	Units	Values
Stellar Parameters:		
$M_*$	Mass ( $M_\odot$ )	$0.91^{+0.12}_{-0.15}$
$R_*$	Radius ( $R_\odot$ )	$1.086^{+0.055}_{-0.060}$
$R_{*,SED}$	Radius <sup>1</sup> ( $R_\odot$ )	$1.091^{+0.074}_{-0.067}$
$L_*$	Luminosity ( $L_\odot$ )	$1.42^{+0.65}_{-0.38}$
$F_{Bol}$	Bolometric Flux (cgs)	$0.000000000156^{+0.00000000000068}_{-0.00000000000032}$
$\rho_*$	Density (cgs)	$0.999^{+0.058}_{-0.066}$
$\log g$	Surface gravity (cgs)	$4.321 \pm 0.027$
$T_{eff}$	Effective Temperature (K)	$5970^{+790}_{-430}$
$T_{eff,SED}$	Effective Temperature <sup>1</sup> (K)	$5980^{+770}_{-450}$
[Fe/H]	Metallicity (dex)	$-0.13^{+0.36}_{-3.6}$
[Fe/H] <sub>0</sub>	Initial Metallicity <sup>2</sup>	$-0.07^{+0.32}_{-3.2}$
Age	Age (Gyr)	$10.0^{+2.7}_{-4.2}$
EEP	Equal Evolutionary Phase <sup>3</sup>	$413.1^{+9.2}_{-20}$
$A_V$	V-band extinction (mag)	$0.74^{+0.43}_{-0.26}$
$\sigma_{SED}$	SED photometry error scaling	$7.3^{+3.3}_{-2.1}$
$\varpi$	Parallax (mas)	$0.594 \pm 0.039$
$d$	Distance (pc)	$1680^{+120}_{-100}$
Planetary Parameters:		
		b
$P$	Period (days)	$1.7293835^{+0.0000014}_{-0.0000013}$
$R_p$	Radius ( $R_J$ )	$1.259^{+0.063}_{-0.061}$
$M_p$	Mass <sup>4</sup> ( $M_J$ )	$4.2^{+13}_{-3.2}$
$T_C$	Time of conjunction <sup>5</sup> (BJD <sub>TDB</sub> )	$2455380.2336 \pm 0.0015$
$T_T$	Time of minimum projected separation <sup>6</sup> (BJD <sub>TDB</sub> )	$2455380.2336 \pm 0.0015$
$T_0$	Optimal conjunction Time <sup>7</sup> (BJD <sub>TDB</sub> )	$2457009.31288^{+0.00072}_{-0.00074}$
$a$	Semi-major axis (AU)	$0.0274^{+0.0011}_{-0.0015}$
$i$	Inclination (Degrees)	$88.83^{+0.83}_{-1.3}$
$T_{eq}$	Equilibrium temperature <sup>8</sup> (K)	$1820^{+240}_{-130}$
$\tau_{circ}$	Tidal circularization timescale (Gyr)	$0.041^{+0.15}_{-0.032}$
$K$	RV semi-amplitude <sup>4</sup> (m/s)	$760^{+2500}_{-590}$
$R_p/R_*$	Radius of planet in stellar radii	$0.1195 \pm 0.0021$
$a/R_*$	Semi-major axis in stellar radii	$5.43^{+0.10}_{-0.12}$
$\delta$	$(R_p/R_*)^2$	$0.01428^{+0.00050}_{-0.00049}$
$\delta_I$	Transit depth in I (fraction)	$0.01624^{+0.00066}_{-0.00063}$
$\delta_V$	Transit depth in V (fraction)	$0.0179^{+0.0013}_{-0.0011}$
$\tau$	Ingress/egress transit duration (days)	$0.01242^{+0.00056}_{-0.00032}$
$T_{14}$	Total transit duration (days)	$0.1135 \pm 0.0018$

Table 1 continued on next page

Table 1 (continued)

Parameter	Units	Values	
$T_{FWHM}$ ..	FWHM transit duration (days) .....	0.1010 ± 0.0017	
$b$ .....	Transit Impact parameter .....	0.111 <sup>+0.12</sup> <sub>-0.078</sub>	
$\delta_{S,2.5\mu m}$ ..	Blackbody eclipse depth at 2.5 $\mu m$ (ppm) .....	1020 <sup>+240</sup> <sub>-150</sub>	
$\delta_{S,5.0\mu m}$ ..	Blackbody eclipse depth at 5.0 $\mu m$ (ppm) .....	2290 <sup>+230</sup> <sub>-180</sub>	
$\delta_{S,7.5\mu m}$ ..	Blackbody eclipse depth at 7.5 $\mu m$ (ppm) .....	2890 <sup>+200</sup> <sub>-170</sub>	
$\rho_P$ .....	Density <sup>4</sup> (cgs) .....	2.6 <sup>+8.9</sup> <sub>-2.1</sub>	
$\log g_P$ .....	Surface gravity <sup>4</sup> .....	3.82 <sup>+0.63</sup> <sub>-0.66</sub>	
$\Theta$ .....	Safronov Number .....	0.20 <sup>+0.69</sup> <sub>-0.16</sub>	
$\langle F \rangle$ .....	Incident Flux (10 <sup>9</sup> erg s <sup>-1</sup> cm <sup>-2</sup> ) .....	2.48 <sup>+1.6</sup> <sub>-0.64</sub>	
$T_P$ .....	Time of Periastron (BJD <sub>TDB</sub> ) .....	2455380.2336 ± 0.0015	
$T_S$ .....	Time of eclipse (BJD <sub>TDB</sub> ) .....	2455379.3689 ± 0.0015	
$T_A$ .....	Time of Ascending Node (BJD <sub>TDB</sub> ) .....	2455381.5306 ± 0.0015	
$T_D$ .....	Time of Descending Node (BJD <sub>TDB</sub> ) .....	2455380.6660 ± 0.0015	
$V_c/V_e$ .....	.....	1.00	
$M_P \sin i$ ..	Minimum mass <sup>4</sup> ( $M_J$ ) .....	4.2 <sup>+13</sup> <sub>-3.2</sub>	
$M_P/M_*$ .....	Mass ratio <sup>4</sup> .....	0.0045 <sup>+0.015</sup> <sub>-0.0035</sub>	
$d/R_*$ .....	Separation at mid transit .....	5.43 <sup>+0.10</sup> <sub>-0.12</sub>	
$P_T$ .....	A priori non-grazing transit prob .....	0.1623 <sup>+0.0038</sup> <sub>-0.0032</sub>	
$P_{T,G}$ .....	A priori transit prob .....	0.2063 <sup>+0.0047</sup> <sub>-0.0038</sub>	
Wavelength Parameters:		I	V
$u_1$ .....	linear limb-darkening coeff .....	0.247 <sup>+0.081</sup> <sub>-0.076</sub>	0.41 <sup>+0.13</sup> <sub>-0.10</sub>
$u_2$ .....	quadratic limb-darkening coeff .....	0.274 ± 0.052	0.274 <sup>+0.066</sup> <sub>-0.070</sub>
Transit Parameters:		OGLE UT 2010-07-02 (I)	OGLE UT 2010-07-02 (V)
$\sigma^2$ .....	Added Variance .....	0.0000805 ± 0.0000014	0.0000614 <sup>+0.0000084</sup> <sub>-0.0000072</sub>
$F_0$ .....	Baseline flux .....	1.00048 ± 0.00010	1.00061 <sup>+0.00065</sup> <sub>-0.00064</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