

**Table 1.** Median values and 68% confidence interval for OGLE-TR-1078.

Parameter	Units	Values
Stellar Parameters:		
$M_*$ . . . . .	Mass ( $M_\odot$ ) . . . . .	$0.94^{+0.48}_{-0.19}$
$R_*$ . . . . .	Radius ( $R_\odot$ ) . . . . .	$1.67^{+0.20}_{-0.11}$
$R_{*,SED}$ . . . . .	Radius <sup>1</sup> ( $R_\odot$ ) . . . . .	$1.75^{+0.16}_{-0.12}$
$L_*$ . . . . .	Luminosity ( $L_\odot$ ) . . . . .	$2.27^{+0.92}_{-0.43}$
$F_{Bol}$ . . . . .	Bolometric Flux (cgs) . . . . .	$0.000000000213^{+0.0000000000030}_{-0.0000000000023}$
$\rho_*$ . . . . .	Density (cgs) . . . . .	$0.292^{+0.017}_{-0.030}$
$\log g$ . . . . .	Surface gravity (cgs) . . . . .	$3.973^{+0.060}_{-0.056}$
$T_{eff}$ . . . . .	Effective Temperature (K) . . . . .	$5510^{+250}_{-220}$
$T_{eff,SED}$ . . . . .	Effective Temperature <sup>1</sup> (K) . . . . .	$5400^{+290}_{-260}$
[Fe/H] . . . . .	Metallicity (dex) . . . . .	$-3.12^{+3.0}_{-0.64}$
[Fe/H] <sub>0</sub> . . . . .	Initial Metallicity <sup>2</sup> . . . . .	$-3.14^{+3.0}_{-0.65}$
Age . . . . .	Age (Gyr) . . . . .	$0.00121^{+0.0026}_{-0.00030}$
EEP . . . . .	Equal Evolutionary Phase <sup>3</sup> . . . . .	$145^{+23}_{-12}$
$A_V$ . . . . .	V-band extinction (mag) . . . . .	$0.34 \pm 0.20$
$\sigma_{SED}$ . . . . .	SED photometry error scaling . . . . .	$9.4^{+1.5}_{-1.2}$
$\varpi$ . . . . .	Parallax (mas) . . . . .	$0.540^{+0.043}_{-0.063}$
$d$ . . . . .	Distance (pc) . . . . .	$1850^{+240}_{-140}$
Planetary Parameters:		
		b
$P$ . . . . .	Period (days) . . . . .	$4.3297076^{+0.0000051}_{-0.0000049}$
$R_P$ . . . . .	Radius ( $R_J$ ) . . . . .	$1.397^{+0.16}_{-0.090}$
$M_P$ . . . . .	Mass <sup>4</sup> ( $M_J$ ) . . . . .	$0.81^{+3.3}_{-0.42}$
$T_C$ . . . . .	Time of conjunction <sup>5</sup> (BJD <sub>TDB</sub> ) . . . . .	$2455377.6280^{+0.0021}_{-0.0022}$
$T_T$ . . . . .	Time of minimum projected separation <sup>6</sup> (BJD <sub>TDB</sub> ) . . . . .	$2455377.6280^{+0.0021}_{-0.0022}$
$T_0$ . . . . .	Optimal conjunction Time <sup>7</sup> (BJD <sub>TDB</sub> ) . . . . .	$2456957.9713 \pm 0.0011$
$a$ . . . . .	Semi-major axis (AU) . . . . .	$0.0510^{+0.0075}_{-0.0037}$
$i$ . . . . .	Inclination (Degrees) . . . . .	$88.73^{+0.88}_{-1.5}$
$T_{eq}$ . . . . .	Equilibrium temperature <sup>8</sup> (K) . . . . .	$1521^{+67}_{-60}$
$\tau_{circ}$ . . . . .	Tidal circularization timescale (Gyr) . . . . .	$0.26^{+1.2}_{-0.17}$
$K$ . . . . .	RV semi-amplitude <sup>4</sup> (m/s) . . . . .	$107^{+480}_{-68}$
$R_P/R_*$ . . . . .	Radius of planet in stellar radii . . . . .	$0.0860 \pm 0.0012$
$a/R_*$ . . . . .	Semi-major axis in stellar radii . . . . .	$6.62^{+0.12}_{-0.23}$
$\delta$ . . . . .	$(R_P/R_*)^2$ . . . . .	$0.00740 \pm 0.00020$
$\delta_I$ . . . . .	Transit depth in I (fraction) . . . . .	$0.00817^{+0.00027}_{-0.00024}$
$\delta_V$ . . . . .	Transit depth in V (fraction) . . . . .	$0.00891^{+0.00051}_{-0.00037}$
$\tau$ . . . . .	Ingress/egress transit duration (days) . . . . .	$0.01826^{+0.0015}_{-0.00049}$
$T_{14}$ . . . . .	Total transit duration (days) . . . . .	$0.2245^{+0.0030}_{-0.0028}$

Table 1 continued on next page

Table 1 (continued)

Parameter	Units	Values	
$T_{FWHM}$ ..	FWHM transit duration (days) .....	0.2058 <sup>+0.0026</sup> <sub>-0.0025</sub>	
$b$ .....	Transit Impact parameter .....	0.15 <sup>+0.16</sup> <sub>-0.10</sub>	
$\delta_{S,2.5\mu m}$ ..	Blackbody eclipse depth at 2.5 $\mu m$ (ppm) .....	316 <sup>+38</sup> <sub>-31</sub>	
$\delta_{S,5.0\mu m}$ ..	Blackbody eclipse depth at 5.0 $\mu m$ (ppm) .....	898 <sup>+55</sup> <sub>-46</sub>	
$\delta_{S,7.5\mu m}$ ..	Blackbody eclipse depth at 7.5 $\mu m$ (ppm) .....	1212 <sup>+58</sup> <sub>-48</sub>	
$\rho_P$ .....	Density <sup>4</sup> (cgs) .....	0.37 <sup>+1.8</sup> <sub>-0.24</sub>	
$\log g_P$ ..	Surface gravity <sup>4</sup> .....	3.02 <sup>+0.74</sup> <sub>-0.42</sub>	
$\Theta$ .....	Safronov Number .....	0.064 <sup>+0.30</sup> <sub>-0.043</sub>	
$\langle F \rangle$ .....	Incident Flux (10 <sup>9</sup> erg s <sup>-1</sup> cm <sup>-2</sup> ) .....	1.21 <sup>+0.23</sup> <sub>-0.18</sub>	
$T_P$ .....	Time of Periastron (BJD <sub>TDB</sub> ) .....	2455377.6280 <sup>+0.0021</sup> <sub>-0.0022</sub>	
$T_S$ .....	Time of eclipse (BJD <sub>TDB</sub> ) .....	2455379.7929 <sup>+0.0021</sup> <sub>-0.0022</sub>	
$T_A$ .....	Time of Ascending Node (BJD <sub>TDB</sub> ) .....	2455380.8753 <sup>+0.0021</sup> <sub>-0.0022</sub>	
$T_D$ .....	Time of Descending Node (BJD <sub>TDB</sub> ) .....	2455378.7105 <sup>+0.0021</sup> <sub>-0.0022</sub>	
$V_c/V_e$ ..	.....	1.00	
$M_P \sin i$ ..	Minimum mass <sup>4</sup> ( $M_J$ ) .....	0.81 <sup>+3.3</sup> <sub>-0.42</sub>	
$M_P/M_*$ ..	Mass ratio <sup>4</sup> .....	0.00084 <sup>+0.0040</sup> <sub>-0.00057</sub>	
$d/R_*$ ..	Separation at mid transit .....	6.62 <sup>+0.12</sup> <sub>-0.23</sub>	
$P_T$ .....	A priori non-grazing transit prob .....	0.1381 <sup>+0.0049</sup> <sub>-0.0026</sub>	
$P_{T,G}$ .....	A priori transit prob .....	0.1640 <sup>+0.0060</sup> <sub>-0.0029</sub>	
Wavelength Parameters:		I	V
$u_1$ .....	linear limb-darkening coeff .....	0.196 <sup>+0.062</sup> <sub>-0.053</sub>	0.351 <sup>+0.088</sup> <sub>-0.058</sub>
$u_2$ .....	quadratic limb-darkening coeff .....	0.303 <sup>+0.053</sup> <sub>-0.055</sub>	0.326 <sup>+0.055</sup> <sub>-0.065</sub>
Transit Parameters:		OGLE UT 2010-06-30 (I)	OGLE UT 2010-06-30 (V)
$\sigma^2$ .....	Added Variance .....	0.00000898 $\pm$ 0.00000020	0.0000068 <sup>+0.0000014</sup> <sub>-0.0000013</sub>
$F_0$ .....	Baseline flux .....	1.000206 <sup>+0.000035</sup> <sub>-0.000036</sub>	0.99992 <sup>+0.00026</sup> <sub>-0.00025</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