

**Table 1.** Median values and 68% confidence interval for OGLE-TR-1043.

Parameter	Units	Values
Stellar Parameters:		
$M_*$	Mass ( $M_\odot$ )	$1.26^{+0.18}_{-0.17}$
$R_*$	Radius ( $R_\odot$ )	$1.86^{+0.43}_{-0.26}$
$R_{*,SED}$	Radius <sup>1</sup> ( $R_\odot$ )	$1.86^{+0.38}_{-0.27}$
$L_*$	Luminosity ( $L_\odot$ )	$3.39^{+1.5}_{-0.91}$
$F_{Bol}$	Bolometric Flux (cgs)	$0.000000000390^{+0.0000000000074}_{-0.0000000000059}$
$\rho_*$	Density (cgs)	$0.27^{+0.16}_{-0.12}$
$\log g$	Surface gravity (cgs)	$3.99^{+0.14}_{-0.16}$
$T_{eff}$	Effective Temperature (K)	$5750^{+350}_{-380}$
$T_{eff,SED}$	Effective Temperature <sup>1</sup> (K)	$5770^{+350}_{-370}$
[Fe/H]	Metallicity (dex)	$0.24^{+0.17}_{-0.22}$
[Fe/H] <sub>0</sub>	Initial Metallicity <sup>2</sup>	$0.26^{+0.17}_{-0.20}$
Age	Age (Gyr)	$4.7^{+3.6}_{-2.3}$
EEP	Equal Evolutionary Phase <sup>3</sup>	$447^{+17}_{-65}$
$A_V$	V-band extinction (mag)	$2.52^{+0.23}_{-0.26}$
$\sigma_{SED}$	SED photometry error scaling	$7.53^{+1.2}_{-0.96}$
$\varpi$	Parallax (mas)	$0.600^{+0.094}_{-0.098}$
$d$	Distance (pc)	$1670^{+320}_{-230}$
Planetary Parameters:		
		b
$P$	Period (days)	$2.196576^{+0.000064}_{-0.0014}$
$R_p$	Radius ( $R_J$ )	$1.003^{+0.093}_{-0.084}$
$M_p$	Mass <sup>4</sup> ( $M_J$ )	$46^{+27}_{-31}$
$T_C$	Time of conjunction <sup>5</sup> (BJD <sub>TDB</sub> )	$2455378.07^{+0.18}_{-0.13}$
$T_T$	Time of minimum projected separation <sup>6</sup> (BJD <sub>TDB</sub> )	$2455378.07^{+0.18}_{-0.13}$
$T_0$	Optimal conjunction Time <sup>7</sup> (BJD <sub>TDB</sub> )	$2455373.67^{+0.18}_{-0.12}$
$a$	Semi-major axis (AU)	$0.0361^{+0.0017}_{-0.0018}$
$i$	Inclination (Degrees)	$78.2^{+2.1}_{-1.7}$
$T_{eq}$	Equilibrium temperature <sup>8</sup> (K)	$1990^{+160}_{-130}$
$\tau_{circ}$	Tidal circularization timescale (Gyr)	$5.4^{+5.6}_{-4.1}$
$K$	RV semi-amplitude <sup>4</sup> (m/s)	$6000^{+3300}_{-3900}$
$R_p/R_*$	Radius of planet in stellar radii	$0.056^{+0.012}_{-0.013}$
$a/R_*$	Semi-major axis in stellar radii	$4.15^{+0.70}_{-0.72}$
$\delta$	$(R_p/R_*)^2$	$0.0031^{+0.0015}_{-0.0013}$
$\delta_I$	Transit depth in I (fraction)	$0.00239^{+0.00079}_{-0.00063}$
$\delta_V$	Transit depth in V (fraction)	$0.00213^{+0.00059}_{-0.00060}$
$\tau$	Ingress/egress transit duration (days)	$0.023^{+0.013}_{-0.011}$
$T_{14}$	Total transit duration (days)	$0.091^{+0.075}_{-0.022}$

Table 1 continued on next page

Table 1 (continued)

Parameter	Units	Values	
$T_{FWHM}$ ..	FWHM transit duration (days) .....	0.067 <sup>+0.088</sup> <sub>-0.032</sub>	
$b$ .....	Transit Impact parameter .....	0.907 <sup>+0.060</sup> <sub>-0.25</sub>	
$\delta_{S,2.5\mu m}$ ..	Blackbody eclipse depth at 2.5 $\mu m$ (ppm) .....	309 <sup>+84</sup> <sub>-75</sub>	
$\delta_{S,5.0\mu m}$ ..	Blackbody eclipse depth at 5.0 $\mu m$ (ppm) .....	620 <sup>+210</sup> <sub>-190</sub>	
$\delta_{S,7.5\mu m}$ ..	Blackbody eclipse depth at 7.5 $\mu m$ (ppm) .....	750 <sup>+270</sup> <sub>-240</sub>	
$\rho_P$ .....	Density <sup>4</sup> (cgs) .....	58 $\pm$ 42	
$\log g_P$ .....	Surface gravity <sup>4</sup> .....	5.07 <sup>+0.21</sup> <sub>-0.51</sub>	
$\Theta$ .....	Safronov Number .....	2.7 <sup>+1.7</sup> <sub>-1.8</sub>	
$\langle F \rangle$ .....	Incident Flux (10 <sup>9</sup> erg s <sup>-1</sup> cm <sup>-2</sup> ) .....	3.56 <sup>+1.3</sup> <sub>-0.84</sub>	
$T_P$ .....	Time of Periastron (BJD <sub>TDB</sub> ) .....	2455378.06 <sup>+0.11</sup> <sub>-0.14</sub>	
$T_S$ .....	Time of eclipse (BJD <sub>TDB</sub> ) .....	2455376.97 <sup>+0.11</sup> <sub>-0.14</sub>	
$T_A$ .....	Time of Ascending Node (BJD <sub>TDB</sub> ) .....	2455379.71 <sup>+0.11</sup> <sub>-0.15</sub>	
$T_D$ .....	Time of Descending Node (BJD <sub>TDB</sub> ) .....	2455378.61 <sup>+0.11</sup> <sub>-0.14</sub>	
$V_c/V_e$ .....	.....	1.00	
$M_P \sin i$ ..	Minimum mass <sup>4</sup> ( $M_J$ ) .....	46 <sup>+27</sup> <sub>-30</sub>	
$M_P/M_*$ .....	Mass ratio <sup>4</sup> .....	0.035 <sup>+0.020</sup> <sub>-0.023</sub>	
$d/R_*$ .....	Separation at mid transit .....	4.15 <sup>+0.70</sup> <sub>-0.72</sub>	
$P_T$ .....	A priori non-grazing transit prob .....	0.227 <sup>+0.051</sup> <sub>-0.034</sub>	
$P_{T,G}$ .....	A priori transit prob .....	0.254 <sup>+0.049</sup> <sub>-0.035</sub>	
Wavelength Parameters:		I	V
$u_1$ .....	linear limb-darkening coeff .....	0.301 <sup>+0.071</sup> <sub>-0.075</sub>	0.481 $\pm$ 0.083
$u_2$ .....	quadratic limb-darkening coeff .....	0.284 <sup>+0.052</sup> <sub>-0.055</sub>	0.244 <sup>+0.068</sup> <sub>-0.069</sub>
Transit Parameters:		OGLE UT 2010-06-30 (I)	OGLE UT 2010-06-30 (V)
$\sigma^2$ .....	Added Variance .....	0.0000628 $\pm$ 0.0000010	0.0000656 <sup>+0.0000091</sup> <sub>-0.0000082</sub>
$F_0$ .....	Baseline flux .....	1.000323 <sup>+0.000097</sup> <sub>-0.000087</sub>	1.00129 <sup>+0.00064</sup> <sub>-0.00067</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