

**Table 1.** Median values and 68% confidence interval for OGLE-TR-1046.

Parameter	Units	Values
Stellar Parameters:		
$M_*$	Mass ( $M_\odot$ )	$0.993^{+0.097}_{-0.079}$
$R_*$	Radius ( $R_\odot$ )	$1.570^{+0.065}_{-0.064}$
$R_{*,SED}$	Radius <sup>1</sup> ( $R_\odot$ )	$1.577^{+0.100}_{-0.093}$
$L_*$	Luminosity ( $L_\odot$ )	$2.15^{+0.74}_{-0.36}$
$F_{Bol}$	Bolometric Flux (cgs)	$0.000000000353^{+0.0000000000089}_{-0.0000000000044}$
$\rho_*$	Density (cgs)	$0.364^{+0.025}_{-0.028}$
$\log g$	Surface gravity (cgs)	$4.044^{+0.026}_{-0.029}$
$T_{eff}$	Effective Temperature (K)	$5560^{+380}_{-220}$
$T_{eff,SED}$	Effective Temperature <sup>1</sup> (K)	$5560^{+390}_{-250}$
[Fe/H]	Metallicity (dex)	$0.05^{+0.23}_{-0.25}$
[Fe/H] <sub>0</sub>	Initial Metallicity <sup>2</sup>	$0.09^{+0.20}_{-0.23}$
Age	Age (Gyr)	$11.2^{+1.9}_{-3.0}$
EEP	Equal Evolutionary Phase <sup>3</sup>	$455.0^{+3.1}_{-8.4}$
$A_V$	V-band extinction (mag)	$1.96^{+0.28}_{-0.20}$
$\sigma_{SED}$	SED photometry error scaling	$7.80^{+1.2}_{-0.92}$
$\varpi$	Parallax (mas)	$0.719^{+0.046}_{-0.048}$
$d$	Distance (pc)	$1391^{+99}_{-84}$
Planetary Parameters:		
		b
$P$	Period (days)	$10.619790 \pm 0.000022$
$R_p$	Radius ( $R_J$ )	$1.813^{+0.078}_{-0.071}$
$M_p$	Mass <sup>4</sup> ( $M_J$ )	$0.400^{+0.010}_{-0.020}$
$T_C$	Time of conjunction <sup>5</sup> (BJD <sub>TDB</sub> )	$2455381.1543 \pm 0.0045$
$T_T$	Time of minimum projected separation <sup>6</sup> (BJD <sub>TDB</sub> )	$2455381.1543 \pm 0.0045$
$T_0$	Optimal conjunction Time <sup>7</sup> (BJD <sub>TDB</sub> )	$2457292.7165 \pm 0.0021$
$a$	Semi-major axis (AU)	$0.0943^{+0.0030}_{-0.0026}$
$i$	Inclination (Degrees)	$89.47^{+0.37}_{-0.56}$
$T_{eq}$	Equilibrium temperature <sup>8</sup> (K)	$1094^{+74}_{-43}$
$\tau_{circ}$	Tidal circularization timescale (Gyr)	$1.72^{+0.28}_{-0.27}$
$K$	RV semi-amplitude <sup>4</sup> (m/s)	$36.8 \pm 2.7$
$R_p/R_*$	Radius of planet in stellar radii	$0.1189 \pm 0.0020$
$a/R_*$	Semi-major axis in stellar radii	$12.95^{+0.29}_{-0.34}$
$\delta$	$(R_p/R_*)^2$	$0.01414^{+0.00048}_{-0.00047}$
$\delta_I$	Transit depth in I (fraction)	$0.01682^{+0.00065}_{-0.00064}$
$\delta_V$	Transit depth in V (fraction)	$0.0187 \pm 0.0011$
$\tau$	Ingress/egress transit duration (days)	$0.03134^{+0.0015}_{-0.00084}$
$T_{14}$	Total transit duration (days)	$0.2896^{+0.0055}_{-0.0053}$

Table 1 continued on next page

Table 1 (continued)

Parameter	Units	Values	
$T_{FWHM}$ ..	FWHM transit duration (days) .....	0.2580 <sup>+0.0050</sup> <sub>-0.0049</sub>	
$b$ .....	Transit Impact parameter .....	0.120 <sup>+0.12</sup> <sub>-0.083</sub>	
$\delta_{S,2.5\mu m}$ ..	Blackbody eclipse depth at 2.5 $\mu m$ (ppm) .....	133 <sup>+37</sup> <sub>-20</sub>	
$\delta_{S,5.0\mu m}$ ..	Blackbody eclipse depth at 5.0 $\mu m$ (ppm) .....	742 <sup>+92</sup> <sub>-56</sub>	
$\delta_{S,7.5\mu m}$ ..	Blackbody eclipse depth at 7.5 $\mu m$ (ppm) .....	1217 <sup>+100</sup> <sub>-67</sub>	
$\rho_P$ .....	Density <sup>4</sup> (cgs) .....	0.082 <sup>+0.011</sup> <sub>-0.010</sub>	
$\log g_P$ ..	Surface gravity <sup>4</sup> .....	2.475 <sup>+0.037</sup> <sub>-0.040</sub>	
$\Theta$ .....	Safronov Number .....	0.0414 <sup>+0.0044</sup> <sub>-0.0041</sub>	
$\langle F \rangle$ .....	Incident Flux (10 <sup>9</sup> erg s <sup>-1</sup> cm <sup>-2</sup> ) .....	0.325 <sup>+0.098</sup> <sub>-0.048</sub>	
$T_P$ .....	Time of Periastron (BJD <sub>TDB</sub> ) .....	2455381.1543 ± 0.0045	
$T_S$ .....	Time of eclipse (BJD <sub>TDB</sub> ) .....	2455386.4642 ± 0.0045	
$T_A$ .....	Time of Ascending Node (BJD <sub>TDB</sub> ) .....	2455389.1192 <sup>+0.0045</sup> <sub>-0.0044</sub>	
$T_D$ .....	Time of Descending Node (BJD <sub>TDB</sub> ) .....	2455383.8093 ± 0.0045	
$V_c/V_e$ ..	.....	1.00	
$M_P \sin i$ ..	Minimum mass <sup>4</sup> ( $M_J$ ) .....	0.400 <sup>+0.010</sup> <sub>-0.020</sub>	
$M_P/M_*$ ..	Mass ratio <sup>4</sup> .....	0.000381 <sup>+0.000039</sup> <sub>-0.000037</sub>	
$d/R_*$ ..	Separation at mid transit .....	12.95 <sup>+0.29</sup> <sub>-0.34</sub>	
$P_T$ .....	A priori non-grazing transit prob .....	0.0680 <sup>+0.0018</sup> <sub>-0.0015</sub>	
$P_{T,G}$ .....	A priori transit prob .....	0.0864 <sup>+0.0023</sup> <sub>-0.0018</sub>	
Wavelength Parameters:		I	V
$u_1$ .....	linear limb-darkening coeff .....	0.332 <sup>+0.064</sup> <sub>-0.075</sub>	0.506 <sup>+0.080</sup> <sub>-0.11</sub>
$u_2$ .....	quadratic limb-darkening coeff .....	0.276 ± 0.054	0.230 <sup>+0.068</sup> <sub>-0.066</sub>
Transit Parameters:		OGLE UT 2010-07-03 (I)	OGLE UT 2010-07-03 (V)
$\sigma^2$ .....	Added Variance .....	0.00002214 <sup>+0.00000046</sup> <sub>-0.00000045</sub>	0.0000520 <sup>+0.0000085</sup> <sub>-0.0000073</sub>
$F_0$ .....	Baseline flux .....	1.000217 <sup>+0.000060</sup> <sub>-0.000059</sub>	1.00114 ± 0.00064

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