

**Table 1.** Median values and 68% confidence interval for OGLE-TR-1029.

Parameter	Units	Values
Stellar Parameters:		
$M_*$	Mass ( $M_\odot$ )	$1.025^{+0.075}_{-0.085}$
$R_*$	Radius ( $R_\odot$ )	$0.995^{+0.050}_{-0.039}$
$R_{*,SED}$	Radius <sup>1</sup> ( $R_\odot$ )	$1.018^{+0.063}_{-0.055}$
$L_*$	Luminosity ( $L_\odot$ )	$0.92^{+0.20}_{-0.15}$
$F_{Bol}$	Bolometric Flux (cgs)	$0.000000000209^{+0.0000000000030}_{-0.0000000000024}$
$\rho_*$	Density (cgs)	$1.47^{+0.14}_{-0.19}$
$\log g$	Surface gravity (cgs)	$4.453^{+0.029}_{-0.043}$
$T_{eff}$	Effective Temperature (K)	$5650^{+210}_{-200}$
$T_{eff,SED}$	Effective Temperature <sup>1</sup> (K)	$5600^{+230}_{-220}$
[Fe/H]	Metallicity (dex)	$0.23 \pm 0.19$
[Fe/H] <sub>0</sub>	Initial Metallicity <sup>2</sup>	$0.22 \pm 0.17$
Age	Age (Gyr)	$3.5^{+4.9}_{-2.5}$
EEP	Equal Evolutionary Phase <sup>3</sup>	$345^{+42}_{-36}$
$A_V$	V-band extinction (mag)	$1.12 \pm 0.18$
$\sigma_{SED}$	SED photometry error scaling	$10.3^{+1.6}_{-1.3}$
$\varpi$	Parallax (mas)	$0.845 \pm 0.053$
$d$	Distance (pc)	$1183^{+78}_{-70}$
Planetary Parameters:		
		b
$P$	Period (days)	$2.5308880^{+0.0000014}_{-0.0000015}$
$R_P$	Radius ( $R_J$ )	$1.067^{+0.065}_{-0.047}$
$M_P$	Mass <sup>4</sup> ( $M_J$ )	$40^{+30}_{-27}$
$T_C$	Time of conjunction <sup>5</sup> (BJD <sub>TDB</sub> )	$2455261.7539^{+0.0011}_{-0.0010}$
$T_T$	Time of minimum projected separation <sup>6</sup> (BJD <sub>TDB</sub> )	$2455261.7539^{+0.0011}_{-0.0010}$
$T_0$	Optimal conjunction Time <sup>7</sup> (BJD <sub>TDB</sub> )	$2456848.62060 \pm 0.00055$
$a$	Semi-major axis (AU)	$0.03711^{+0.00088}_{-0.0010}$
$i$	Inclination (Degrees)	$87.9^{+1.2}_{-1.1}$
$T_{eq}$	Equilibrium temperature <sup>8</sup> (K)	$1414^{+62}_{-55}$
$\tau_{circ}$	Tidal circularization timescale (Gyr)	$5.4^{+5.1}_{-3.9}$
$K$	RV semi-amplitude <sup>4</sup> (m/s)	$5800^{+4200}_{-3900}$
$R_P/R_*$	Radius of planet in stellar radii	$0.1103^{+0.0018}_{-0.0017}$
$a/R_*$	Semi-major axis in stellar radii	$8.03^{+0.27}_{-0.38}$
$\delta$	$(R_P/R_*)^2$	$0.01217^{+0.00040}_{-0.00037}$
$\delta_I$	Transit depth in I (fraction)	$0.01418^{+0.00046}_{-0.00045}$
$\delta_V$	Transit depth in V (fraction)	$0.01587^{+0.00082}_{-0.00076}$
$\tau$	Ingress/egress transit duration (days)	$0.01164^{+0.0014}_{-0.00084}$
$T_{14}$	Total transit duration (days)	$0.1081^{+0.0016}_{-0.0015}$

Table 1 continued on next page

Table 1 (continued)

Parameter	Units	Values	
$T_{FWHM}$ ..	FWHM transit duration (days) .....	$0.0962 \pm 0.0014$	
$b$ .....	Transit Impact parameter .....	$0.29^{+0.13}_{-0.17}$	
$\delta_{S,2.5\mu m}$ ..	Blackbody eclipse depth at $2.5\mu m$ (ppm) .....	$372^{+58}_{-45}$	
$\delta_{S,5.0\mu m}$ ..	Blackbody eclipse depth at $5.0\mu m$ (ppm) .....	$1208^{+110}_{-83}$	
$\delta_{S,7.5\mu m}$ ..	Blackbody eclipse depth at $7.5\mu m$ (ppm) .....	$1696^{+120}_{-93}$	
$\rho_P$ .....	Density <sup>4</sup> (cgs) .....	$41^{+33}_{-28}$	
$\log g_P$ ..	Surface gravity <sup>4</sup> .....	$4.94^{+0.25}_{-0.50}$	
$\Theta$ .....	Safronov Number .....	$2.7^{+2.2}_{-1.9}$	
$\langle F \rangle$ .....	Incident Flux ( $10^9 \text{ erg s}^{-1} \text{ cm}^{-2}$ ) .....	$0.91^{+0.17}_{-0.13}$	
$T_P$ .....	Time of Periastron (BJD <sub>TDB</sub> ) .....	$2455261.7539^{+0.0011}_{-0.0010}$	
$T_S$ .....	Time of eclipse (BJD <sub>TDB</sub> ) .....	$2455263.0193^{+0.0011}_{-0.0010}$	
$T_A$ .....	Time of Ascending Node (BJD <sub>TDB</sub> ) .....	$2455263.6520^{+0.0011}_{-0.0010}$	
$T_D$ .....	Time of Descending Node (BJD <sub>TDB</sub> ) .....	$2455262.3866^{+0.0011}_{-0.0010}$	
$V_c/V_e$ ..	.....	1.00	
$M_P \sin i$ ..	Minimum mass <sup>4</sup> ( $M_J$ ) .....	$40^{+30}_{-27}$	
$M_P/M_*$ ..	Mass ratio <sup>4</sup> .....	$0.038^{+0.029}_{-0.025}$	
$d/R_*$ ..	Separation at mid transit .....	$8.03^{+0.27}_{-0.38}$	
$P_T$ .....	A priori non-grazing transit prob .....	$0.1109^{+0.0053}_{-0.0035}$	
$P_{T,G}$ .....	A priori transit prob .....	$0.1383^{+0.0070}_{-0.0045}$	
Wavelength Parameters:		I	V
$u_1$ .....	linear limb-darkening coeff .....	$0.312 \pm 0.056$	$0.511^{+0.071}_{-0.073}$
$u_2$ .....	quadratic limb-darkening coeff .....	$0.266^{+0.053}_{-0.052}$	$0.227^{+0.061}_{-0.062}$
Transit Parameters:		OGLE UT 2010-03-06 (I)	OGLE UT 2010-03-06 (V)
$\sigma^2$ .....	Added Variance .....	$0.00003787^{+0.00000054}_{-0.00000053}$	$0.000159^{+0.000018}_{-0.000015}$
$F_0$ .....	Baseline flux .....	$1.000197 \pm 0.000056$	$0.99945^{+0.00091}_{-0.00089}$

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