

Table 1. Median values and 68% confidence interval for OGLE-TR-1079.

Parameter	Units	Values
Stellar Parameters:		
M_*	Mass (M_\odot)	$0.46^{+0.36}_{-0.15}$
R_*	Radius (R_\odot)	$2.95^{+1.1}_{-0.60}$
$R_{*,SED}$	Radius ¹ (R_\odot)	$3.02^{+1.1}_{-0.58}$
L_*	Luminosity (L_\odot)	$2.6^{+2.6}_{-1.1}$
F_{Bol}	Bolometric Flux (cgs)	$0.000000000203^{+0.00000000000038}_{-0.00000000000042}$
ρ_*	Density (cgs)	$0.026^{+0.025}_{-0.017}$
$\log g$	Surface gravity (cgs)	$3.17^{+0.25}_{-0.30}$
T_{eff}	Effective Temperature (K)	4280^{+250}_{-270}
$T_{eff,SED}$	Effective Temperature ¹ (K)	4240^{+240}_{-270}
[Fe/H]	Metallicity (dex)	$-0.56^{+0.46}_{-0.90}$
[Fe/H] ₀	Initial Metallicity ²	$-0.58^{+0.45}_{-0.89}$
Age	Age (Gyr)	$0.00018^{+0.00026}_{-0.00014}$
EEP	Equal Evolutionary Phase ³	76^{+26}_{-37}
A_V	V-band extinction (mag)	$1.30^{+0.33}_{-0.44}$
σ_{SED}	SED photometry error scaling	$7.29^{+1.1}_{-0.92}$
ϖ	Parallax (mas)	$0.49^{+0.12}_{-0.13}$
d	Distance (pc)	2050^{+780}_{-400}
Planetary Parameters:		
		b
P	Period (days)	$13.45047^{+0.00049}_{-0.00044}$
R_P	Radius (R_J)	$1.56^{+0.86}_{-0.43}$
M_P	Mass ⁴ (M_J)	138^{+89}_{-120}
T_C	Time of conjunction ⁵ (BJD _{TDB})	$2455381.447^{+0.051}_{-0.059}$
T_T	Time of minimum projected separation ⁶ (BJD _{TDB})	$2455381.447^{+0.051}_{-0.059}$
T_0	Optimal conjunction Time ⁷ (BJD _{TDB})	2456847.548 ± 0.023
a	Semi-major axis (AU)	$0.093^{+0.017}_{-0.012}$
i	Inclination (Degrees)	$85.1^{+3.4}_{-4.1}$
T_{eq}	Equilibrium temperature ⁸ (K)	1170^{+150}_{-110}
τ_{circ}	Tidal circularization timescale (Gyr)	1700^{+3100}_{-1200}
K	RV semi-amplitude ⁴ (m/s)	14000^{+11000}_{-12000}
R_P/R_*	Radius of planet in stellar radii	$0.0543^{+0.0080}_{-0.0068}$
a/R_*	Semi-major axis in stellar radii	$6.7^{+1.4}_{-1.5}$
δ	$(R_P/R_*)^2$	$0.00294^{+0.00093}_{-0.00070}$
δ_I	Transit depth in I (fraction)	$0.00331^{+0.00063}_{-0.00062}$
δ_V	Transit depth in V (fraction)	$0.00360^{+0.00084}_{-0.00080}$
τ	Ingress/egress transit duration (days)	$0.041^{+0.047}_{-0.014}$
T_{14}	Total transit duration (days)	$0.554^{+0.067}_{-0.053}$

Table 1 continued on next page

Table 1 (continued)

Parameter	Units	Values	
T_{FWHM} ..	FWHM transit duration (days)	0.497 ^{+0.072} _{-0.054}	
b	Transit Impact parameter	0.59 ^{+0.23} _{-0.38}	
$\delta_{S,2.5\mu m}$..	Blackbody eclipse depth at 2.5 μm (ppm)	57 ⁺⁷⁶ ₋₂₆	
$\delta_{S,5.0\mu m}$..	Blackbody eclipse depth at 5.0 μm (ppm)	250 ⁺²⁰⁰ ₋₈₄	
$\delta_{S,7.5\mu m}$..	Blackbody eclipse depth at 7.5 μm (ppm)	380 ⁺²⁶⁰ ₋₁₂₀	
ρ_P	Density ⁴ (cgs)	25 ⁺²² ₋₁₇	
$\log g_P$	Surface gravity ⁴	5.00 ^{+0.14} _{-0.61}	
Θ	Safronov Number	26 ⁺²⁰ ₋₂₂	
$\langle F \rangle$	Incident Flux (10 ⁹ erg s ⁻¹ cm ⁻²)	0.42 ^{+0.26} _{-0.14}	
T_P	Time of Periastron (BJD _{TDB})	2455381.447 ^{+0.051} _{-0.059}	
T_S	Time of eclipse (BJD _{TDB})	2455374.721 ^{+0.051} _{-0.059}	
T_A	Time of Ascending Node (BJD _{TDB})	2455391.535 ^{+0.051} _{-0.059}	
T_D	Time of Descending Node (BJD _{TDB})	2455384.809 ^{+0.051} _{-0.059}	
V_c/V_e	1.00	
$M_P \sin i$..	Minimum mass ⁴ (M_J)	137 ⁺⁸⁷ ₋₁₂₀	
M_P/M_*	Mass ratio ⁴	0.21 ^{+0.30} _{-0.18}	
d/R_*	Separation at mid transit	6.7 ^{+1.4} _{-1.5}	
P_T	A priori non-grazing transit prob	0.142 ^{+0.040} _{-0.025}	
$P_{T,G}$	A priori transit prob	0.157 ^{+0.047} _{-0.028}	
Wavelength Parameters:		I	V
u_1	linear limb-darkening coeff	0.473 ^{+0.070} _{-0.10}	0.792 ^{+0.094} _{-0.16}
u_2	quadratic limb-darkening coeff	0.179 ^{+0.079} _{-0.061}	0.015 ^{+0.13} _{-0.084}
Transit Parameters:		OGLE UT 2010-07-03 (I)	OGLE UT 2010-07-03 (V)
σ^2	Added Variance	0.00003532 \pm 0.00000071	0.0000307 ^{+0.000010} _{-0.0000084}
F_0	Baseline flux	0.999994 \pm 0.000074	1.00017 ^{+0.00080} _{-0.00081}

See Table 3 in Eastman, J. et al., 2019, arXiv:1907.09480 for a detailed description of all parameters

¹This value ignores the systematic error and is for reference only

²The metallicity of the star at birth

³Corresponds to static points in a star's evolutionary history. See §2 in Dotter, A., 2016, ApJS, 222, 8

⁴Uses measured radius and estimated mass from Chen, J., & Kipping, D. 2017, ApJ, 834, 17

⁵Time of conjunction is commonly reported as the "transit time"

⁶Time of minimum projected separation is a more correct "transit time"

⁷Optimal time of conjunction minimizes the covariance between T_C and Period

⁸Assumes no albedo and perfect redistribution