

Table 1. Median values and 68% confidence interval for OGLE-TR-1054.

Parameter	Units	Values
Stellar Parameters:		
M_*	Mass (M_\odot)	$1.55^{+0.34}_{-0.27}$
R_*	Radius (R_\odot)	$2.51^{+0.49}_{-0.30}$
$R_{*,SED}$	Radius ¹ (R_\odot)	$2.57^{+0.46}_{-0.30}$
L_*	Luminosity (L_\odot)	$8.6^{+4.3}_{-2.8}$
F_{Bol}	Bolometric Flux (cgs)	$0.0000000000363^{+0.0000000000016}_{-0.00000000000084}$
ρ_*	Density (cgs)	$0.127^{+0.082}_{-0.050}$
$\log g$	Surface gravity (cgs)	$3.80^{+0.16}_{-0.15}$
T_{eff}	Effective Temperature (K)	6060^{+940}_{-570}
$T_{eff,SED}$	Effective Temperature ¹ (K)	6020^{+920}_{-570}
[Fe/H]	Metallicity (dex)	-1.5 ± 1.7
[Fe/H] ₀	Initial Metallicity ²	-1.5 ± 1.7
Age	Age (Gyr)	$0.0016^{+0.0074}_{-0.0011}$
EEP	Equal Evolutionary Phase ³	164 ± 29
A_V	V-band extinction (mag)	$1.44^{+0.50}_{-0.37}$
σ_{SED}	SED photometry error scaling	$8.6^{+1.3}_{-1.0}$
ϖ	Parallax (mas)	$0.374^{+0.042}_{-0.045}$
d	Distance (pc)	2670^{+360}_{-270}
Planetary Parameters:		
		b
P	Period (days)	$8.58268^{+0.00012}_{-0.00014}$
R_p	Radius (R_J)	$1.22^{+0.41}_{-0.12}$
M_p	Mass ⁴ (M_J)	35^{+110}_{-31}
T_C	Time of conjunction ⁵ (BJD _{TDB})	$2455378.537^{+0.034}_{-0.031}$
T_T	Time of minimum projected separation ⁶ (BJD _{TDB})	$2455378.537^{+0.034}_{-0.031}$
T_0	Optimal conjunction Time ⁷ (BJD _{TDB})	$2456983.497^{+0.021}_{-0.018}$
a	Semi-major axis (AU)	$0.0961^{+0.0065}_{-0.0061}$
i	Inclination (Degrees)	$88.2^{+1.3}_{-2.4}$
T_{eq}	Equilibrium temperature ⁸ (K)	1540^{+140}_{-110}
τ_{circ}	Tidal circularization timescale (Gyr)	500^{+870}_{-430}
K	RV semi-amplitude ⁴ (m/s)	2600^{+7300}_{-2300}
R_p/R_*	Radius of planet in stellar radii	$0.0522^{+0.0058}_{-0.0054}$
a/R_*	Semi-major axis in stellar radii	$8.0^{+1.4}_{-1.1}$
δ	$(R_p/R_*)^2$	$0.00272^{+0.00064}_{-0.00054}$
δ_I	Transit depth in I (fraction)	$0.00300^{+0.00067}_{-0.00058}$
δ_V	Transit depth in V (fraction)	$0.00322^{+0.00069}_{-0.00062}$
τ	Ingress/egress transit duration (days)	$0.0180^{+0.0074}_{-0.0027}$
T_{14}	Total transit duration (days)	$0.342^{+0.041}_{-0.050}$

Table 1 continued on next page

Table 1 (continued)

Parameter	Units	Values	
T_{FWHM} ..	FWHM transit duration (days)	0.321 ^{+0.039} _{-0.047}	
b	Transit Impact parameter	0.27 ^{+0.27} _{-0.19}	
$\delta_{S,2.5\mu m}$..	Blackbody eclipse depth at 2.5 μm (ppm)	99 ⁺³⁶ ₋₂₃	
$\delta_{S,5.0\mu m}$..	Blackbody eclipse depth at 5.0 μm (ppm)	286 ⁺⁹² ₋₅₃	
$\delta_{S,7.5\mu m}$..	Blackbody eclipse depth at 7.5 μm (ppm)	389 ⁺¹²⁰ ₋₇₀	
ρ_P	Density ⁴ (cgs)	25 ⁺²⁷ ₋₂₃	
$\log g_P$	Surface gravity ⁴	4.83 ^{+0.32} _{-0.98}	
Θ	Safronov Number	3.9 ^{+7.1} _{-3.4}	
$\langle F \rangle$	Incident Flux (10 ⁹ erg s ⁻¹ cm ⁻²)	1.27 ^{+0.53} _{-0.33}	
T_P	Time of Periastron (BJD _{TDB})	2455378.537 ^{+0.034} _{-0.031}	
T_S	Time of eclipse (BJD _{TDB})	2455374.246 ^{+0.034} _{-0.031}	
T_A	Time of Ascending Node (BJD _{TDB})	2455384.975 ^{+0.034} _{-0.031}	
T_D	Time of Descending Node (BJD _{TDB})	2455380.683 ^{+0.034} _{-0.031}	
V_c/V_e	1.00	
$M_P \sin i$..	Minimum mass ⁴ (M_J)	35 ⁺¹¹⁰ ₋₃₁	
M_P/M_*	Mass ratio ⁴	0.022 ^{+0.064} _{-0.019}	
d/R_*	Separation at mid transit	8.0 ^{+1.4} _{-1.1}	
P_T	A priori non-grazing transit prob	0.119 ^{+0.020} _{-0.018}	
$P_{T,G}$	A priori transit prob	0.132 ^{+0.022} _{-0.020}	
Wavelength Parameters:		I	V
u_1	linear limb-darkening coeff	0.209 ^{+0.067} _{-0.063}	0.352 ^{+0.072} _{-0.064}
u_2	quadratic limb-darkening coeff	0.301 ^{+0.057} _{-0.056}	0.310 ^{+0.054} _{-0.060}
Transit Parameters:		OGLE UT 2010-07-01 (I)	OGLE UT 2010-07-01 (V)
σ^2	Added Variance	0.00004121 ^{+0.00000085} _{-0.00000082}	0.0000300 ^{+0.00000050} _{-0.00000043}
F_0	Baseline flux	0.999675 ^{+0.000087} _{-0.000090}	1.00044 \pm 0.00052

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