

Table 1. Median values and 68% confidence interval for OGLE-TR-1048.

Parameter	Units	Values
Stellar Parameters:		
M_*	Mass (M_\odot)	$0.85^{+0.21}_{-0.31}$
R_*	Radius (R_\odot)	$1.15^{+0.16}_{-0.15}$
$R_{*,SED}$	Radius ¹ (R_\odot)	$1.15^{+0.16}_{-0.14}$
L_*	Luminosity (L_\odot)	$1.07^{+1.4}_{-0.49}$
F_{Bol}	Bolometric Flux (cgs)	$0.000000000144^{+0.000000000013}_{-0.0000000000046}$
ρ_*	Density (cgs)	$0.77^{+0.13}_{-0.20}$
$\log g$	Surface gravity (cgs)	$4.230^{+0.062}_{-0.10}$
T_{eff}	Effective Temperature (K)	5400^{+1100}_{-430}
$T_{eff,SED}$	Effective Temperature ¹ (K)	5390^{+1100}_{-480}
[Fe/H]	Metallicity (dex)	$-2.5^{+1.8}_{-1.1}$
[Fe/H] ₀	Initial Metallicity ²	$-2.4^{+1.8}_{-1.1}$
Age	Age (Gyr)	$0.0040^{+0.026}_{-0.0018}$
EEP	Equal Evolutionary Phase ³	165^{+52}_{-28}
A_V	V-band extinction (mag)	$0.98^{+0.79}_{-0.57}$
σ_{SED}	SED photometry error scaling	$25.9^{+8.2}_{-5.4}$
ϖ	Parallax (mas)	$0.652^{+0.095}_{-0.088}$
d	Distance (pc)	1530^{+240}_{-190}
Planetary Parameters:		
		b
P	Period (days)	$5.2472019^{+0.0000083}_{-0.000085}$
R_p	Radius (R_J)	$1.47^{+0.22}_{-0.20}$
M_p	Mass ⁴ (M_J)	123^{+29}_{-120}
T_C	Time of conjunction ⁵ (BJD _{TDB})	2455378.6899 ± 0.0027
T_T	Time of minimum projected separation ⁶ (BJD _{TDB})	2455378.6899 ± 0.0027
T_0	Optimal conjunction Time ⁷ (BJD _{TDB})	2456842.6592 ± 0.0014
a	Semi-major axis (AU)	$0.0573^{+0.0054}_{-0.0084}$
i	Inclination (Degrees)	$88.78^{+0.87}_{-1.4}$
T_{eq}	Equilibrium temperature ⁸ (K)	1186^{+220}_{-97}
τ_{circ}	Tidal circularization timescale (Gyr)	43^{+37}_{-43}
K	RV semi-amplitude ⁴ (m/s)	13900^{+3100}_{-14000}
R_p/R_*	Radius of planet in stellar radii	$0.1315^{+0.0029}_{-0.0026}$
a/R_*	Semi-major axis in stellar radii	$10.68^{+0.41}_{-0.87}$
δ	$(R_p/R_*)^2$	$0.01730^{+0.00076}_{-0.00068}$
δ_I	Transit depth in I (fraction)	$0.01897^{+0.00084}_{-0.00077}$
δ_V	Transit depth in V (fraction)	$0.0205^{+0.0013}_{-0.0010}$
τ	Ingress/egress transit duration (days)	$0.0211^{+0.0044}_{-0.0012}$
T_{14}	Total transit duration (days)	$0.1735^{+0.0053}_{-0.0043}$

Table 1 continued on next page

Table 1 (continued)

Parameter	Units	Values	
T_{FWHM} ..	FWHM transit duration (days)	0.1514 ^{+0.0034} _{-0.0033}	
b	Transit Impact parameter	0.23 ^{+0.22} _{-0.16}	
$\delta_{S,2.5\mu m}$..	Blackbody eclipse depth at 2.5 μm (ppm)	262 ⁺¹⁶⁰ ₋₇₆	
$\delta_{S,5.0\mu m}$..	Blackbody eclipse depth at 5.0 μm (ppm)	1190 ⁺²⁸⁰ ₋₁₈₀	
$\delta_{S,7.5\mu m}$..	Blackbody eclipse depth at 7.5 μm (ppm)	1820 ⁺²⁹⁰ ₋₂₀₀	
ρ_P	Density ⁴ (cgs)	32 ⁺¹⁴ ₋₃₂	
$\log g_P$	Surface gravity ⁴	5.077 ^{+0.078} _{-2.0}	
Θ	Safronov Number	9.3 ^{+3.0} _{-9.2}	
$\langle F \rangle$	Incident Flux (10 ⁹ erg s ⁻¹ cm ⁻²)	0.45 ^{+0.44} _{-0.13}	
T_P	Time of Periastron (BJD _{TDB})	2455378.6899 ± 0.0027	
T_S	Time of eclipse (BJD _{TDB})	2455381.3135 ± 0.0027	
T_A	Time of Ascending Node (BJD _{TDB})	2455382.6253 ± 0.0027	
T_D	Time of Descending Node (BJD _{TDB})	2455380.0017 ± 0.0027	
V_c/V_e	1.00	
$M_P \sin i$..	Minimum mass ⁴ (M_J)	123 ⁺²⁹ ₋₁₂₀	
M_P/M_*	Mass ratio ⁴	0.114 ^{+0.046} _{-0.11}	
d/R_*	Separation at mid transit	10.68 ^{+0.41} _{-0.87}	
P_T	A priori non-grazing transit prob	0.0814 ^{+0.0070} _{-0.0030}	
$P_{T,G}$	A priori transit prob	0.1059 ^{+0.0096} _{-0.0038}	
Wavelength Parameters:		I	V
u_1	linear limb-darkening coeff	0.188 ^{+0.075} _{-0.061}	0.333 ^{+0.093} _{-0.067}
u_2	quadratic limb-darkening coeff	0.309 ^{+0.060} _{-0.064}	0.335 ^{+0.063} _{-0.071}
Transit Parameters:		OGLE UT 2010-07-01 (I)	OGLE UT 2010-07-01 (V)
σ^2	Added Variance	0.0001119 ± 0.0000015	0.0000833 ^{+0.000010} _{-0.0000093}
F_0	Baseline flux	1.000823 ^{+0.000094} _{-0.000092}	0.99950 ^{+0.00070} _{-0.00071}

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