

Table 1. Median values and 68% confidence interval for OGLE-TR-1050.

Parameter	Units	Values
Stellar Parameters:		
M_*	Mass (M_\odot)	$0.122^{+0.061}_{-0.017}$
R_*	Radius (R_\odot)	$0.953^{+0.069}_{-0.052}$
$R_{*,SED}$	Radius ¹ (R_\odot)	$0.933^{+0.079}_{-0.069}$
L_*	Luminosity (L_\odot)	$0.421^{+0.11}_{-0.084}$
F_{Bol}	Bolometric Flux (cgs)	$0.000000000142^{+0.0000000000020}_{-0.0000000000010}$
ρ_*	Density (cgs)	$0.209^{+0.061}_{-0.031}$
$\log g$	Surface gravity (cgs)	$3.579^{+0.13}_{-0.059}$
T_{eff}	Effective Temperature (K)	4740^{+240}_{-200}
$T_{eff,SED}$	Effective Temperature ¹ (K)	4790^{+230}_{-160}
[Fe/H]	Metallicity (dex)	$-3.01^{+0.81}_{-0.65}$
[Fe/H] ₀	Initial Metallicity ²	$-3.04^{+0.81}_{-0.65}$
Age	Age (Gyr)	$0.00060^{+0.00029}_{-0.00026}$
EEP	Equal Evolutionary Phase ³	70^{+17}_{-12}
A_V	V-band extinction (mag)	$0.19^{+0.23}_{-0.13}$
σ_{SED}	SED photometry error scaling	$31.3^{+4.4}_{-3.5}$
ϖ	Parallax (mas)	$1.039^{+0.11}_{-0.097}$
d	Distance (pc)	962^{+100}_{-89}
Planetary Parameters:		
		b
P	Period (days)	1.6114682 ± 0.0000022
R_p	Radius (R_J)	$1.152^{+0.093}_{-0.080}$
M_p	Mass ⁴ (M_J)	14^{+25}_{-11}
T_C	Time of conjunction ⁵ (BJD _{TDB})	2455377.8440 ± 0.0023
T_T	Time of minimum projected separation ⁶ (BJD _{TDB})	2455377.8440 ± 0.0023
T_0	Optimal conjunction Time ⁷ (BJD _{TDB})	2456686.3562 ± 0.0013
a	Semi-major axis (AU)	$0.01415^{+0.0017}_{-0.00089}$
i	Inclination (Degrees)	$74.5^{+2.0}_{-1.5}$
T_{eq}	Equilibrium temperature ⁸ (K)	1860 ± 110
τ_{circ}	Tidal circularization timescale (Gyr)	$0.057^{+0.20}_{-0.049}$
K	RV semi-amplitude ⁴ (m/s)	8200^{+14000}_{-6600}
R_p/R_*	Radius of planet in stellar radii	$0.1231^{+0.0065}_{-0.0054}$
a/R_*	Semi-major axis in stellar radii	$3.21^{+0.30}_{-0.20}$
δ	$(R_p/R_*)^2$	$0.0152^{+0.0016}_{-0.0013}$
δ_I	Transit depth in I (fraction)	$0.01430^{+0.00090}_{-0.00088}$
δ_V	Transit depth in V (fraction)	$0.01332^{+0.00078}_{-0.00074}$
τ	Ingress/egress transit duration (days)	$0.046^{+0.016}_{-0.013}$
T_{14}	Total transit duration (days)	$0.1208^{+0.0055}_{-0.0062}$

Table 1 continued on next page

Table 1 (continued)

Parameter	Units	Values	
T_{FWHM} ..	FWHM transit duration (days)	0.0749 ^{+0.0092} _{-0.013}	
b	Transit Impact parameter	0.859 ^{+0.027} _{-0.041}	
$\delta_{S,2.5\mu m}$..	Blackbody eclipse depth at 2.5 μm (ppm)	1730 ⁺³⁷⁰ ₋₃₅₀	
$\delta_{S,5.0\mu m}$..	Blackbody eclipse depth at 5.0 μm (ppm)	3450 ⁺⁵⁶⁰ ₋₅₂₀	
$\delta_{S,7.5\mu m}$..	Blackbody eclipse depth at 7.5 μm (ppm)	4210 ⁺⁶³⁰ ₋₅₈₀	
ρ_P	Density ⁴ (cgs)	11.6 ⁺²⁴ _{-9.6}	
$\log g_P$..	Surface gravity ⁴	4.43 ^{+0.47} _{-0.74}	
Θ	Safronov Number	2.5 ^{+5.8} _{-2.1}	
$\langle F \rangle$	Incident Flux (10 ⁹ erg s ⁻¹ cm ⁻²)	2.73 ^{+0.72} _{-0.60}	
T_P	Time of Periastron (BJD _{TDB})	2455377.8440 \pm 0.0023	
T_S	Time of eclipse (BJD _{TDB})	2455377.0383 \pm 0.0023	
T_A	Time of Ascending Node (BJD _{TDB})	2455379.0526 \pm 0.0023	
T_D	Time of Descending Node (BJD _{TDB})	2455378.2469 \pm 0.0023	
V_c/V_e	1.00	
$M_P \sin i$..	Minimum mass ⁴ (M_J)	13 ⁺²⁵ ₋₁₁	
M_P/M_* ..	Mass ratio ⁴	0.095 ^{+0.21} _{-0.079}	
d/R_* ..	Separation at mid transit	3.21 ^{+0.30} _{-0.20}	
P_T	A priori non-grazing transit prob	0.273 ^{+0.016} _{-0.022}	
$P_{T,G}$	A priori transit prob	0.350 ^{+0.024} _{-0.031}	
Wavelength Parameters:		I	V
u_1	linear limb-darkening coeff	0.171 ^{+0.080} _{-0.062}	0.344 ^{+0.090} _{-0.065}
u_2	quadratic limb-darkening coeff	0.337 ^{+0.057} _{-0.059}	0.353 ^{+0.059} _{-0.067}
Transit Parameters:		OGLE UT 2010-06-30 (I)	OGLE UT 2010-06-30 (V)
σ^2	Added Variance	0.0001363 ^{+0.0000017} _{-0.0000016}	0.0000501 ^{+0.0000065} _{-0.0000054}
F_0	Baseline flux	1.000598 ^{+0.000099} _{-0.00010}	1.00149 ^{+0.00053} _{-0.00051}

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