

Table 1. Median values and 68% confidence interval for OGLE-TR-1011.

Parameter	Units	Values
Stellar Parameters:		
M_*	Mass (M_\odot)	$1.56^{+0.22}_{-0.17}$
R_*	Radius (R_\odot)	$1.94^{+0.42}_{-0.27}$
$R_{*,SED}$	Radius ¹ (R_\odot)	$1.97^{+0.38}_{-0.24}$
L_*	Luminosity (L_\odot)	$2.49^{+0.97}_{-0.60}$
F_{Bol}	Bolometric Flux (cgs)	$0.000000000223^{+0.0000000000037}_{-0.0000000000028}$
ρ_*	Density (cgs)	0.31 ± 0.13
$\log g$	Surface gravity (cgs)	$4.070^{+0.086}_{-0.16}$
T_{eff}	Effective Temperature (K)	5150^{+380}_{-300}
$T_{eff,SED}$	Effective Temperature ¹ (K)	5120^{+340}_{-270}
[Fe/H]	Metallicity (dex)	$0.31^{+0.20}_{-0.23}$
[Fe/H] ₀	Initial Metallicity ²	$0.25^{+0.18}_{-0.21}$
Age	Age (Gyr)	$0.0053^{+0.0060}_{-0.0031}$
EEP	Equal Evolutionary Phase ³	173^{+14}_{-18}
A_V	V-band extinction (mag)	$1.74^{+0.27}_{-0.26}$
σ_{SED}	SED photometry error scaling	$6.44^{+1.0}_{-0.81}$
ϖ	Parallax (mas)	$0.536^{+0.066}_{-0.077}$
d	Distance (pc)	1870^{+310}_{-210}
Planetary Parameters:		
		b
P	Period (days)	$16.854160^{+0.000093}_{-0.00011}$
R_p	Radius (R_J)	$1.52^{+0.42}_{-0.25}$
M_p	Mass ⁴ (M_J)	134^{+43}_{-130}
T_C	Time of conjunction ⁵ (BJD _{TDB})	$2455389.1759^{+0.0090}_{-0.0093}$
T_T	Time of minimum projected separation ⁶ (BJD _{TDB})	$2455389.1759^{+0.0090}_{-0.0093}$
T_0	Optimal conjunction Time ⁷ (BJD _{TDB})	$2456602.6750^{+0.0052}_{-0.0058}$
a	Semi-major axis (AU)	$0.1525^{+0.0080}_{-0.0075}$
i	Inclination (Degrees)	$88.6^{+1.0}_{-1.3}$
T_{eq}	Equilibrium temperature ⁸ (K)	896^{+62}_{-51}
τ_{circ}	Tidal circularization timescale (Gyr)	8500^{+10000}_{-7600}
K	RV semi-amplitude ⁴ (m/s)	7300^{+2000}_{-7100}
R_p/R_*	Radius of planet in stellar radii	$0.0809^{+0.0046}_{-0.0039}$
a/R_*	Semi-major axis in stellar radii	$17.1^{+1.8}_{-2.8}$
δ	$(R_p/R_*)^2$	$0.00654^{+0.00076}_{-0.00062}$
δ_I	Transit depth in I (fraction)	$0.00765^{+0.00060}_{-0.00059}$
δ_V	Transit depth in V (fraction)	$0.00858^{+0.00080}_{-0.00076}$
τ	Ingress/egress transit duration (days)	$0.0277^{+0.015}_{-0.0052}$
T_{14}	Total transit duration (days)	$0.313^{+0.017}_{-0.014}$

Table 1 continued on next page

Table 1 (continued)

Parameter	Units	Values	
T_{FWHM} ..	FWHM transit duration (days)	0.282 ± 0.012	
b	Transit Impact parameter	0.41 ^{+0.24} _{-0.29}	
$\delta_{S,2.5\mu m}$..	Blackbody eclipse depth at 2.5 μm (ppm)	21.6 ⁺¹³ _{-7.1}	
$\delta_{S,5.0\mu m}$..	Blackbody eclipse depth at 5.0 μm (ppm)	201 ⁺⁶⁷ ₋₄₂	
$\delta_{S,7.5\mu m}$..	Blackbody eclipse depth at 7.5 μm (ppm)	384 ⁺¹¹⁰ ₋₆₅	
ρ_P	Density ⁴ (cgs)	32 ⁺¹⁸ ₋₃₀	
$\log g_P$	Surface gravity ⁴	5.080 ^{+0.089} _{-1.3}	
Θ	Safronov Number	16.3 ^{+1.7} _{-1.6}	
$\langle F \rangle$	Incident Flux (10 ⁹ erg s ⁻¹ cm ⁻²)	0.147 ^{+0.045} _{-0.031}	
T_P	Time of Periastron (BJD _{TDB})	2455389.1759 ^{+0.0090} _{-0.0093}	
T_S	Time of eclipse (BJD _{TDB})	2455380.7488 ^{+0.0090} _{-0.0093}	
T_A	Time of Ascending Node (BJD _{TDB})	2455401.8165 ^{+0.0089} _{-0.0093}	
T_D	Time of Descending Node (BJD _{TDB})	2455393.3894 ^{+0.0090} _{-0.0093}	
V_c/V_e	1.00	
$M_P \sin i$..	Minimum mass ⁴ (M_J)	134 ⁺⁴³ ₋₁₃₀	
M_P/M_*	Mass ratio ⁴	0.079 ^{+0.023} _{-0.076}	
d/R_*	Separation at mid transit	17.1 ^{+1.8} _{-2.8}	
P_T	A priori non-grazing transit prob	0.0538 ^{+0.010} _{-0.0050}	
$P_{T,G}$	A priori transit prob	0.0632 ^{+0.013} _{-0.0061}	
Wavelength Parameters:		I	V
u_1	linear limb-darkening coeff	0.391 ^{+0.067} _{-0.074}	0.633 ^{+0.090} _{-0.098}
u_2	quadratic limb-darkening coeff	0.227 ^{+0.061} _{-0.059}	0.143 ^{+0.079} _{-0.078}
Transit Parameters:		OGLE UT 2010-07-11 (I)	OGLE UT 2010-07-11 (V)
σ^2	Added Variance	0.00003358 ^{+0.00000052} _{-0.00000051}	0.0000499 ^{+0.00000074} _{-0.00000065}
F_0	Baseline flux	1.000152 ± 0.000054	0.99899 ^{+0.00059} _{-0.00058}

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