

Table 1. Median values and 68% confidence interval for OGLE-TR-1001.

Parameter	Units	Values
Stellar Parameters:		
M_*	Mass (M_\odot)	$2.44^{+0.42}_{-0.36}$
R_*	Radius (R_\odot)	$1.57^{+0.23}_{-0.14}$
$R_{*,SED}$	Radius ¹ (R_\odot)	$1.62^{+0.27}_{-0.15}$
L_*	Luminosity (L_\odot)	96^{+65}_{-57}
F_{Bol}	Bolometric Flux (cgs)	$0.0000000094^{+0.0000000058}_{-0.0000000055}$
ρ_*	Density (cgs)	$0.86^{+0.40}_{-0.31}$
$\log g$	Surface gravity (cgs)	$4.42^{+0.13}_{-0.15}$
T_{eff}	Effective Temperature (K)	14400^{+2500}_{-3800}
$T_{eff,SED}$	Effective Temperature ¹ (K)	14300^{+2500}_{-3700}
[Fe/H]	Metallicity (dex)	$-1.5^{+1.5}_{-1.6}$
[Fe/H] ₀	Initial Metallicity ²	$-1.5^{+1.5}_{-1.6}$
Age	Age (Gyr)	$0.21^{+0.20}_{-0.14}$
EEP	Equal Evolutionary Phase ³	346^{+58}_{-44}
A_V	V-band extinction (mag)	$2.57^{+0.12}_{-0.22}$
σ_{SED}	SED photometry error scaling	$15.0^{+2.3}_{-2.0}$
ϖ	Parallax (mas)	$0.552^{+0.025}_{-0.026}$
d	Distance (pc)	1810^{+91}_{-79}
Planetary Parameters:		
		b
P	Period (days)	2.1093174 ± 0.0000010
R_P	Radius (R_J)	$1.39^{+0.22}_{-0.14}$
M_P	Mass ⁴ (M_J)	10^{+130}_{-10}
T_C	Time of conjunction ⁵ (BJD _{TDB})	$2455378.18379^{+0.00081}_{-0.00084}$
T_T	Time of minimum projected separation ⁶ (BJD _{TDB})	$2455378.18379^{+0.00081}_{-0.00084}$
T_0	Optimal conjunction Time ⁷ (BJD _{TDB})	$2456782.98920^{+0.00044}_{-0.00046}$
a	Semi-major axis (AU)	$0.0437^{+0.0023}_{-0.0024}$
i	Inclination (Degrees)	$84.2^{+2.1}_{-2.3}$
T_{eq}	Equilibrium temperature ⁸ (K)	4190^{+480}_{-860}
τ_{circ}	Tidal circularization timescale (Gyr)	$0.52^{+2.5}_{-0.50}$
K	RV semi-amplitude ⁴ (m/s)	910^{+11000}_{-870}
R_P/R_*	Radius of planet in stellar radii	$0.0907^{+0.0014}_{-0.0013}$
a/R_*	Semi-major axis in stellar radii	$5.92^{+0.78}_{-0.81}$
δ	$(R_P/R_*)^2$	$0.00823^{+0.00025}_{-0.00023}$
δ_I	Transit depth in I (fraction)	0.00848 ± 0.00020
δ_V	Transit depth in V (fraction)	$0.00857^{+0.00022}_{-0.00021}$
τ	Ingress/egress transit duration (days)	$0.0131^{+0.0048}_{-0.0030}$
T_{14}	Total transit duration (days)	$0.1043^{+0.0052}_{-0.0034}$

Table 1 continued on next page

Table 1 (continued)

Parameter	Units	Values	
T_{FWHM} ..	FWHM transit duration (days)	0.0912 ^{+0.0012} _{-0.0011}	
b	Transit Impact parameter	0.60 ^{+0.12} _{-0.17}	
$\delta_{S,2.5\mu m}$..	Blackbody eclipse depth at 2.5 μm (ppm)	1330 ⁺⁹⁰ ₋₁₀₀	
$\delta_{S,5.0\mu m}$..	Blackbody eclipse depth at 5.0 μm (ppm)	1819 ⁺⁹⁶ ₋₁₁₀	
$\delta_{S,7.5\mu m}$..	Blackbody eclipse depth at 7.5 μm (ppm)	2000 ⁺¹³⁰ ₋₁₄₀	
ρ_P	Density ⁴ (cgs)	6.9 ^{+4.3} _{-6.6}	
$\log g_P$	Surface gravity ⁴	4.23 ^{+0.93} _{-1.4}	
Θ	Safronov Number	0.30 ^{+2.9} _{-0.29}	
$\langle F \rangle$	Incident Flux (10 ⁹ erg s ⁻¹ cm ⁻²)	69 ⁺³⁸ ₋₄₂	
T_P	Time of Periastron (BJD _{TDB})	2455378.18379 ^{+0.00081} _{-0.00084}	
T_S	Time of eclipse (BJD _{TDB})	2455379.23845 ^{+0.00081} _{-0.00084}	
T_A	Time of Ascending Node (BJD _{TDB})	2455379.76578 ^{+0.00081} _{-0.00083}	
T_D	Time of Descending Node (BJD _{TDB})	2455378.71112 ^{+0.00081} _{-0.00084}	
V_c/V_e	1.00	
$M_P \sin i$..	Minimum mass ⁴ (M_J)	10 ⁺¹³⁰ ₋₁₀	
M_P/M_* ..	Mass ratio ⁴	0.0041 ^{+0.050} _{-0.0039}	
d/R_*	Separation at mid transit	5.92 ^{+0.78} _{-0.81}	
P_T	A priori non-grazing transit prob	0.154 ^{+0.024} _{-0.018}	
$P_{T,G}$	A priori transit prob	0.184 ^{+0.029} _{-0.022}	
Wavelength Parameters:		I	V
u_1	linear limb-darkening coeff	0.118 ^{+0.051} _{-0.048}	0.164 ^{+0.070} _{-0.059}
u_2	quadratic limb-darkening coeff	0.202 ^{+0.051} _{-0.055}	0.297 ^{+0.052} _{-0.053}
Transit Parameters:		OGLE UT 2010-06-30 (I)	OGLE UT 2010-06-30 (V)
σ^2	Added Variance	0.00000397 ^{+0.00000014} _{-0.00000013}	0.0000127 ^{+0.0000021} _{-0.0000019}
F_0	Baseline flux	0.999967 ^{+0.000032} _{-0.000029}	0.99944 ± 0.00032

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