

Table 1. Median values and 68% confidence interval for OGLE-TR-1007.

Parameter	Units	Values
Stellar Parameters:		
M_*	Mass (M_\odot)	$1.65^{+0.21}_{-0.12}$
R_*	Radius (R_\odot)	$2.95^{+0.24}_{-0.23}$
$R_{*,SED}$	Radius ¹ (R_\odot)	$2.98^{+0.29}_{-0.27}$
L_*	Luminosity (L_\odot)	$16.4^{+8.2}_{-4.9}$
F_{Bol}	Bolometric Flux (cgs)	$0.00000000188^{+0.000000000062}_{-0.000000000045}$
ρ_*	Density (cgs)	$0.093^{+0.019}_{-0.016}$
$\log g$	Surface gravity (cgs)	3.726 ± 0.053
T_{eff}	Effective Temperature (K)	6800^{+580}_{-520}
$T_{eff,SED}$	Effective Temperature ¹ (K)	6790^{+540}_{-520}
[Fe/H]	Metallicity (dex)	$-3.32^{+1.5}_{-0.49}$
[Fe/H] ₀	Initial Metallicity ²	$-3.34^{+1.5}_{-0.49}$
Age	Age (Gyr)	$0.00142^{+0.00045}_{-0.00032}$
EEP	Equal Evolutionary Phase ³	$167.8^{+4.3}_{-6.2}$
A_V	V-band extinction (mag)	$0.84^{+0.30}_{-0.31}$
σ_{SED}	SED photometry error scaling	$6.64^{+1.2}_{-0.92}$
ϖ	Parallax (mas)	$0.591^{+0.063}_{-0.054}$
d	Distance (pc)	1690^{+170}_{-160}
Planetary Parameters:		
		b
P	Period (days)	$3.5659243^{+0.0000048}_{-0.0000049}$
R_P	Radius (R_J)	$2.98^{+0.29}_{-0.27}$
M_P	Mass ⁴ (M_J)	288^{+32}_{-29}
T_C	Time of conjunction ⁵ (BJD _{TDB})	2455379.2049 ± 0.0021
T_T	Time of minimum projected separation ⁶ (BJD _{TDB})	2455379.2049 ± 0.0021
T_0	Optimal conjunction Time ⁷ (BJD _{TDB})	$2456566.6577^{+0.0013}_{-0.0014}$
a	Semi-major axis (AU)	$0.0569^{+0.0020}_{-0.0015}$
i	Inclination (Degrees)	$78.22^{+0.96}_{-1.0}$
T_{eq}	Equilibrium temperature ⁸ (K)	2350^{+210}_{-180}
τ_{circ}	Tidal circularization timescale (Gyr)	$1.81^{+0.65}_{-0.47}$
K	RV semi-amplitude ⁴ (m/s)	24000^{+1900}_{-1700}
R_P/R_*	Radius of planet in stellar radii	$0.1040^{+0.0025}_{-0.0023}$
a/R_*	Semi-major axis in stellar radii	$4.17^{+0.26}_{-0.24}$
δ	$(R_P/R_*)^2$	$0.01082^{+0.00052}_{-0.00047}$
δ_I	Transit depth in I (fraction)	$0.01029^{+0.00036}_{-0.00033}$
δ_V	Transit depth in V (fraction)	$0.00979^{+0.00036}_{-0.00037}$
τ	Ingress/egress transit duration (days)	$0.0595^{+0.012}_{-0.0089}$
T_{14}	Total transit duration (days)	$0.1960^{+0.0072}_{-0.0066}$

Table 1 continued on next page

Table 1 (continued)

Parameter	Units	Values	
T_{FWHM} . . .	FWHM transit duration (days)	$0.1363^{+0.0057}_{-0.0078}$	
b	Transit Impact parameter	$0.852^{+0.020}_{-0.022}$	
$\delta_{S,2.5\mu m}$. . .	Blackbody eclipse depth at $2.5\mu m$ (ppm)	1370^{+200}_{-180}	
$\delta_{S,5.0\mu m}$. . .	Blackbody eclipse depth at $5.0\mu m$ (ppm)	2370^{+220}_{-200}	
$\delta_{S,7.5\mu m}$. . .	Blackbody eclipse depth at $7.5\mu m$ (ppm)	2790^{+230}_{-210}	
ρ_P	Density ⁴ (cgs)	$13.5^{+2.6}_{-2.2}$	
$\log g_P$	Surface gravity ⁴	4.906 ± 0.035	
Θ	Safronov Number	$6.70^{+0.25}_{-0.53}$	
$\langle F \rangle$	Incident Flux ($10^9 \text{ erg s}^{-1} \text{ cm}^{-2}$)	$6.9^{+2.8}_{-1.9}$	
T_P	Time of Periastron (BJD _{TDB})	2455379.2049 ± 0.0021	
T_S	Time of eclipse (BJD _{TDB})	2455380.9879 ± 0.0021	
T_A	Time of Ascending Node (BJD _{TDB})	2455381.8793 ± 0.0021	
T_D	Time of Descending Node (BJD _{TDB})	2455380.0964 ± 0.0021	
V_c/V_e	1.00	
$M_P \sin i$	Minimum mass ⁴ (M_J)	282^{+31}_{-28}	
M_P/M_*	Mass ratio ⁴	0.165 ± 0.015	
d/R_*	Separation at mid transit	$4.17^{+0.26}_{-0.24}$	
P_T	A priori non-grazing transit prob	$0.215^{+0.013}_{-0.012}$	
$P_{T,G}$	A priori transit prob	$0.264^{+0.017}_{-0.016}$	
Wavelength Parameters:		I	V
u_1	linear limb-darkening coeff	0.192 ± 0.054	$0.337^{+0.051}_{-0.052}$
u_2	quadratic limb-darkening coeff	$0.294^{+0.053}_{-0.054}$	$0.300^{+0.051}_{-0.050}$
Transit Parameters:		OGLE UT 2010-07-01 (I)	OGLE UT 2010-07-01 (V)
σ^2	Added Variance	$0.00001836^{+0.00000032}_{-0.00000030}$	$0.0000320^{+0.00000042}_{-0.00000037}$
F_0	Baseline flux	$1.000201^{+0.000044}_{-0.000043}$	0.99918 ± 0.00042

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