

Table 1. Median values and 68% confidence interval for OGLE-TR-1081.

Parameter	Units	Values
Stellar Parameters:		
M_*	Mass (M_\odot)	$1.21^{+0.12}_{-0.15}$
R_*	Radius (R_\odot)	$1.397^{+0.087}_{-0.081}$
$R_{*,SED}$	Radius ¹ (R_\odot)	$1.418^{+0.099}_{-0.089}$
L_*	Luminosity (L_\odot)	$2.21^{+0.48}_{-0.37}$
F_{Bol}	Bolometric Flux (cgs)	$0.000000000199^{+0.00000000000028}_{-0.00000000000023}$
ρ_*	Density (cgs)	$0.62^{+0.14}_{-0.12}$
$\log g$	Surface gravity (cgs)	$4.227^{+0.068}_{-0.075}$
T_{eff}	Effective Temperature (K)	5960^{+270}_{-250}
$T_{eff,SED}$	Effective Temperature ¹ (K)	5920^{+260}_{-250}
[Fe/H]	Metallicity (dex)	$0.25^{+0.18}_{-0.20}$
[Fe/H] ₀	Initial Metallicity ²	$0.28^{+0.14}_{-0.16}$
Age	Age (Gyr)	$4.0^{+4.4}_{-2.7}$
EEP	Equal Evolutionary Phase ³	394^{+45}_{-61}
A_V	V-band extinction (mag)	0.69 ± 0.17
σ_{SED}	SED photometry error scaling	$7.80^{+1.2}_{-0.96}$
ϖ	Parallax (mas)	0.531 ± 0.034
d	Distance (pc)	1880^{+130}_{-110}
Planetary Parameters:		
		b
P	Period (days)	$6.406942^{+0.000016}_{-0.000014}$
R_p	Radius (R_J)	$1.059^{+0.078}_{-0.071}$
M_p	Mass ⁴ (M_J)	40^{+31}_{-28}
T_C	Time of conjunction ⁵ (BJD _{TDB})	$2455377.5162^{+0.0039}_{-0.0047}$
T_T	Time of minimum projected separation ⁶ (BJD _{TDB})	$2455377.5162^{+0.0039}_{-0.0047}$
T_0	Optimal conjunction Time ⁷ (BJD _{TDB})	$2457107.3904^{+0.0019}_{-0.0018}$
a	Semi-major axis (AU)	$0.0727^{+0.0024}_{-0.0031}$
i	Inclination (Degrees)	$87.38^{+0.78}_{-0.72}$
T_{eq}	Equilibrium temperature ⁸ (K)	1261^{+51}_{-46}
τ_{circ}	Tidal circularization timescale (Gyr)	360^{+390}_{-270}
K	RV semi-amplitude ⁴ (m/s)	3900^{+2800}_{-2600}
R_p/R_*	Radius of planet in stellar radii	$0.0780^{+0.0021}_{-0.0020}$
a/R_*	Semi-major axis in stellar radii	$11.16^{+0.79}_{-0.80}$
δ	$(R_p/R_*)^2$	$0.00608^{+0.00032}_{-0.00031}$
δ_I	Transit depth in I (fraction)	$0.00673^{+0.00034}_{-0.00033}$
δ_V	Transit depth in V (fraction)	$0.00724^{+0.00041}_{-0.00039}$
τ	Ingress/egress transit duration (days)	$0.0166^{+0.0030}_{-0.0023}$
T_{14}	Total transit duration (days)	$0.1741^{+0.0046}_{-0.0043}$

Table 1 continued on next page

Table 1 (continued)

Parameter	Units	Values	
T_{FWHM} ..	FWHM transit duration (days)	0.1573 ± 0.0042	
b	Transit Impact parameter	0.510 ^{+0.095} _{-0.13}	
$\delta_{S,2.5\mu m}$..	Blackbody eclipse depth at 2.5 μm (ppm)	104 ⁺¹⁸ ₋₁₆	
$\delta_{S,5.0\mu m}$..	Blackbody eclipse depth at 5.0 μm (ppm)	429 ⁺⁴⁶ ₋₄₁	
$\delta_{S,7.5\mu m}$..	Blackbody eclipse depth at 7.5 μm (ppm)	645 ⁺⁶⁰ ₋₅₃	
ρ_P	Density ⁴ (cgs)	43 ⁺³⁶ ₋₃₁	
$\log g_P$	Surface gravity ⁴	4.96 ^{+0.26} _{-0.53}	
Θ	Safronov Number	4.7 ^{+3.7} _{-3.3}	
$\langle F \rangle$	Incident Flux (10 ⁹ erg s ⁻¹ cm ⁻²)	0.575 ^{+0.098} _{-0.079}	
T_P	Time of Periastron (BJD _{TDB})	2455377.5162 ^{+0.0039} _{-0.0047}	
T_S	Time of eclipse (BJD _{TDB})	2455374.3127 ^{+0.0039} _{-0.0047}	
T_A	Time of Ascending Node (BJD _{TDB})	2455382.3214 ^{+0.0039} _{-0.0046}	
T_D	Time of Descending Node (BJD _{TDB})	2455379.1179 ^{+0.0039} _{-0.0047}	
V_c/V_e	1.00	
$M_P \sin i$..	Minimum mass ⁴ (M_J)	40 ⁺³¹ ₋₂₈	
M_P/M_*	Mass ratio ⁴	0.033 ^{+0.024} _{-0.022}	
d/R_*	Separation at mid transit	11.16 ^{+0.79} _{-0.80}	
P_T	A priori non-grazing transit prob	0.0826 ^{+0.0063} _{-0.0054}	
$P_{T,G}$	A priori transit prob	0.0966 ^{+0.0075} _{-0.0065}	
Wavelength Parameters:		I	V
u_1	linear limb-darkening coeff	0.276 ^{+0.060} _{-0.059}	0.449 ^{+0.068} _{-0.067}
u_2	quadratic limb-darkening coeff	0.297 ± 0.053	0.273 ^{+0.056} _{-0.057}
Transit Parameters:		OGLE UT 2010-06-30 (I)	OGLE UT 2010-06-30 (V)
σ^2	Added Variance	0.00001640 ± 0.00000029	0.0000190 ^{+0.0000028} _{-0.0000025}
F_0	Baseline flux	1.000136 ± 0.000042	1.00013 ± 0.00035

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