

Table 1. Median values and 68% confidence interval for OGLE-TR-1083.

Parameter	Units	Values
Stellar Parameters:		
M_*	Mass (M_\odot)	$1.067^{+0.090}_{-0.093}$
R_*	Radius (R_\odot)	$1.112^{+0.062}_{-0.055}$
$R_{*,SED}$	Radius ¹ (R_\odot)	$1.138^{+0.068}_{-0.062}$
L_*	Luminosity (L_\odot)	$1.15^{+0.21}_{-0.17}$
F_{Bol}	Bolometric Flux (cgs)	$0.000000000170^{+0.0000000000020}_{-0.0000000000017}$
ρ_*	Density (cgs)	$1.09^{+0.19}_{-0.18}$
$\log g$	Surface gravity (cgs)	$4.375^{+0.051}_{-0.058}$
T_{eff}	Effective Temperature (K)	5670^{+190}_{-180}
$T_{eff,SED}$	Effective Temperature ¹ (K)	5610^{+210}_{-200}
[Fe/H]	Metallicity (dex)	$0.33^{+0.14}_{-0.18}$
[Fe/H] ₀	Initial Metallicity ²	$0.32^{+0.12}_{-0.15}$
Age	Age (Gyr)	$5.0^{+5.0}_{-3.6}$
EEP	Equal Evolutionary Phase ³	378^{+39}_{-50}
A_V	V-band extinction (mag)	0.62 ± 0.15
σ_{SED}	SED photometry error scaling	$7.13^{+1.1}_{-0.87}$
ϖ	Parallax (mas)	0.681 ± 0.038
d	Distance (pc)	1468^{+87}_{-78}
Planetary Parameters:		
		b
P	Period (days)	$5.410081^{+0.000011}_{-0.000010}$
R_p	Radius (R_J)	$1.084^{+0.077}_{-0.068}$
M_p	Mass ⁴ (M_J)	36^{+33}_{-27}
T_C	Time of conjunction ⁵ (BJD _{TDB})	$2455380.6355^{+0.0035}_{-0.0036}$
T_T	Time of minimum projected separation ⁶ (BJD _{TDB})	$2455380.6355^{+0.0035}_{-0.0036}$
T_0	Optimal conjunction Time ⁷ (BJD _{TDB})	2456933.3287 ± 0.0020
a	Semi-major axis (AU)	$0.0624^{+0.0017}_{-0.0019}$
i	Inclination (Degrees)	$87.62^{+0.70}_{-0.60}$
T_{eq}	Equilibrium temperature ⁸ (K)	1155^{+44}_{-40}
τ_{circ}	Tidal circularization timescale (Gyr)	130^{+160}_{-100}
K	RV semi-amplitude ⁴ (m/s)	4000^{+3400}_{-2900}
R_p/R_*	Radius of planet in stellar radii	$0.1003^{+0.0034}_{-0.0033}$
a/R_*	Semi-major axis in stellar radii	$12.06^{+0.68}_{-0.72}$
δ	$(R_p/R_*)^2$	$0.01005^{+0.00069}_{-0.00065}$
δ_I	Transit depth in I (fraction)	$0.01138^{+0.00068}_{-0.00066}$
δ_V	Transit depth in V (fraction)	$0.01241^{+0.00081}_{-0.00077}$
τ	Ingress/egress transit duration (days)	$0.0166^{+0.0027}_{-0.0022}$
T_{14}	Total transit duration (days)	$0.1406^{+0.0045}_{-0.0044}$

Table 1 continued on next page

Table 1 (continued)

Parameter	Units	Values	
T_{FWHM} ..	FWHM transit duration (days)	0.1236 ^{+0.0052} _{-0.0051}	
b	Transit Impact parameter	0.502 ^{+0.093} _{-0.13}	
$\delta_{S,2.5\mu m}$..	Blackbody eclipse depth at 2.5 μm (ppm)	121 ⁺²⁴ ₋₂₀	
$\delta_{S,5.0\mu m}$..	Blackbody eclipse depth at 5.0 μm (ppm)	598 ⁺⁷³ ₋₆₃	
$\delta_{S,7.5\mu m}$..	Blackbody eclipse depth at 7.5 μm (ppm)	947 ⁺⁹⁸ ₋₈₆	
ρ_P	Density ⁴ (cgs)	36 ⁺³⁶ ₋₂₈	
$\log g_P$	Surface gravity ⁴	4.90 ^{+0.30} _{-0.59}	
Θ	Safronov Number	4.0 ^{+3.8} _{-2.9}	
$\langle F \rangle$	Incident Flux (10 ⁹ erg s ⁻¹ cm ⁻²)	0.404 ^{+0.065} _{-0.054}	
T_P	Time of Periastron (BJD _{TDB})	2455380.6355 ^{+0.0035} _{-0.0036}	
T_S	Time of eclipse (BJD _{TDB})	2455383.3406 ^{+0.0035} _{-0.0036}	
T_A	Time of Ascending Node (BJD _{TDB})	2455384.6931 ^{+0.0035} _{-0.0036}	
T_D	Time of Descending Node (BJD _{TDB})	2455381.9880 ^{+0.0035} _{-0.0036}	
V_c/V_e	1.00	
$M_P \sin i$..	Minimum mass ⁴ (M_J)	36 ⁺³³ ₋₂₇	
M_P/M_*	Mass ratio ⁴	0.033 ^{+0.030} _{-0.024}	
d/R_*	Separation at mid transit	12.06 ^{+0.68} _{-0.72}	
P_T	A priori non-grazing transit prob	0.0746 ^{+0.0047} _{-0.0039}	
$P_{T,G}$	A priori transit prob	0.0912 ^{+0.0059} _{-0.0050}	
Wavelength Parameters:		I	V
u_1	linear limb-darkening coeff	0.324 ^{+0.056} _{-0.057}	0.516 \pm 0.065
u_2	quadratic limb-darkening coeff	0.272 \pm 0.052	0.225 ^{+0.057} _{-0.058}
Transit Parameters:		OGLE UT 2010-07-03 (I)	OGLE UT 2010-07-03 (V)
σ^2	Added Variance	0.00007207 \pm 0.00000095	0.000130 ^{+0.000014} _{-0.000013}
F_0	Baseline flux	1.000072 \pm 0.000076	0.99969 \pm 0.00080

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