

Table 1. Median values and 68% confidence interval for OGLE-TR-1063.

Parameter	Units	Values
Stellar Parameters:		
M_*	Mass (M_\odot)	$1.12^{+0.40}_{-0.13}$
R_*	Radius (R_\odot)	$1.382^{+0.12}_{-0.082}$
$R_{*,SED}$	Radius ¹ (R_\odot)	$1.472^{+0.10}_{-0.079}$
L_*	Luminosity (L_\odot)	$8.2^{+1.7}_{-1.5}$
F_{Bol}	Bolometric Flux (cgs)	$0.00000000112^{+0.000000000019}_{-0.000000000018}$
ρ_*	Density (cgs)	$0.644^{+0.085}_{-0.13}$
$\log g$	Surface gravity (cgs)	$4.233^{+0.059}_{-0.076}$
T_{eff}	Effective Temperature (K)	8290^{+440}_{-490}
$T_{eff,SED}$	Effective Temperature ¹ (K)	8050^{+420}_{-470}
[Fe/H]	Metallicity (dex)	$-1.9^{+1.4}_{-1.6}$
[Fe/H] ₀	Initial Metallicity ²	$-1.6^{+1.3}_{-1.5}$
Age	Age (Gyr)	$3.4^{+1.8}_{-2.5}$
EEP	Equal Evolutionary Phase ³	426^{+11}_{-88}
A_V	V-band extinction (mag)	$2.19^{+0.16}_{-0.20}$
σ_{SED}	SED photometry error scaling	$14.2^{+2.2}_{-1.7}$
ϖ	Parallax (mas)	$0.655^{+0.035}_{-0.036}$
d	Distance (pc)	1527^{+89}_{-77}
Planetary Parameters:		
		b
P	Period (days)	$3.5835181^{+0.0000029}_{-0.0000032}$
R_P	Radius (R_J)	$1.392^{+0.13}_{-0.090}$
M_P	Mass ⁴ (M_J)	$0.87^{+3.2}_{-0.48}$
T_C	Time of conjunction ⁵ (BJD _{TDB})	$2455261.3897^{+0.0015}_{-0.0014}$
T_T	Time of minimum projected separation ⁶ (BJD _{TDB})	$2455261.3897^{+0.0015}_{-0.0014}$
T_0	Optimal conjunction Time ⁷ (BJD _{TDB})	$2456773.63436^{+0.00070}_{-0.00071}$
a	Semi-major axis (AU)	$0.0476^{+0.0051}_{-0.0019}$
i	Inclination (Degrees)	87.6 ± 1.5
T_{eq}	Equilibrium temperature ⁸ (K)	2137^{+99}_{-110}
τ_{circ}	Tidal circularization timescale (Gyr)	$0.146^{+0.66}_{-0.098}$
K	RV semi-amplitude ⁴ (m/s)	104^{+400}_{-62}
R_P/R_*	Radius of planet in stellar radii	0.1035 ± 0.0015
a/R_*	Semi-major axis in stellar radii	$7.60^{+0.32}_{-0.55}$
δ	$(R_P/R_*)^2$	$0.01070^{+0.00031}_{-0.00030}$
δ_I	Transit depth in I (fraction)	0.01173 ± 0.00031
δ_V	Transit depth in V (fraction)	$0.01240^{+0.00044}_{-0.00042}$
τ	Ingress/egress transit duration (days)	$0.0165^{+0.0029}_{-0.0015}$
T_{14}	Total transit duration (days)	$0.1596^{+0.0031}_{-0.0022}$

Table 1 continued on next page

Table 1 (continued)

Parameter	Units	Values	
T_{FWHM} . . .	FWHM transit duration (days)	0.1428 ^{+0.0018} _{-0.0017}	
b	Transit Impact parameter	0.32 ^{+0.16} _{-0.19}	
$\delta_{S,2.5\mu m}$. . .	Blackbody eclipse depth at 2.5 μm (ppm)	775 ⁺⁷⁹ ₋₇₃	
$\delta_{S,5.0\mu m}$. . .	Blackbody eclipse depth at 5.0 μm (ppm)	1549 ⁺¹²⁰ ₋₈₈	
$\delta_{S,7.5\mu m}$. . .	Blackbody eclipse depth at 7.5 μm (ppm)	1900 ⁺¹³⁰ ₋₉₂	
ρ_P	Density ⁴ (cgs)	0.41 ^{+1.7} _{-0.27}	
$\log g_P$	Surface gravity ⁴	3.05 ^{+0.71} _{-0.42}	
Θ	Safronov Number	0.052 ^{+0.21} _{-0.033}	
$\langle F \rangle$	Incident Flux (10 ⁹ erg s ⁻¹ cm ⁻²)	4.74 ^{+0.94} _{-0.88}	
T_P	Time of Periastron (BJD _{TDB})	2455261.3897 ^{+0.0015} _{-0.0014}	
T_S	Time of eclipse (BJD _{TDB})	2455259.5980 ^{+0.0015} _{-0.0014}	
T_A	Time of Ascending Node (BJD _{TDB})	2455264.0774 ^{+0.0015} _{-0.0014}	
T_D	Time of Descending Node (BJD _{TDB})	2455262.2856 ^{+0.0015} _{-0.0014}	
V_c/V_e	1.00	
$M_P \sin i$	Minimum mass ⁴ (M_J)	0.87 ^{+3.2} _{-0.48}	
M_P/M_*	Mass ratio ⁴	0.00072 ^{+0.0028} _{-0.00045}	
d/R_*	Separation at mid transit	7.60 ^{+0.32} _{-0.55}	
P_T	A priori non-grazing transit prob	0.1180 ^{+0.0090} _{-0.0047}	
$P_{T,G}$	A priori transit prob	0.1452 ^{+0.011} _{-0.0060}	
Wavelength Parameters:		I	V
u_1	linear limb-darkening coeff	0.200 ^{+0.051} _{-0.053}	0.313 ^{+0.053} _{-0.054}
u_2	quadratic limb-darkening coeff	0.254 ^{+0.063} _{-0.056}	0.306 ^{+0.050} _{-0.051}
Transit Parameters:		OGLE UT 2010-03-05 (I)	OGLE UT 2010-03-05 (V)
σ^2	Added Variance	0.00001993 \pm 0.00000031	0.0000094 ^{+0.0000018} _{-0.0000016}
F_0	Baseline flux	1.000267 ^{+0.000042} _{-0.000041}	0.99987 ^{+0.00028} _{-0.00029}

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