

Table 1. Median values and 68% confidence interval for OGLE-TR-1064.

Parameter	Units	Values
Stellar Parameters:		
M_*	Mass (M_\odot)	$1.09^{+0.27}_{-0.50}$
R_*	Radius (R_\odot)	$1.87^{+0.14}_{-0.13}$
$R_{*,SED}$	Radius ¹ (R_\odot)	$1.84^{+0.16}_{-0.14}$
L_*	Luminosity (L_\odot)	$2.42^{+1.00}_{-0.65}$
F_{Bol}	Bolometric Flux (cgs)	$0.000000000145^{+0.00000000000038}_{-0.00000000000026}$
ρ_*	Density (cgs)	$0.219^{+0.079}_{-0.090}$
$\log g$	Surface gravity (cgs)	$3.92^{+0.11}_{-0.24}$
T_{eff}	Effective Temperature (K)	5240^{+430}_{-310}
$T_{eff,SED}$	Effective Temperature ¹ (K)	5280^{+430}_{-320}
[Fe/H]	Metallicity (dex)	$-1.22^{+0.76}_{-0.96}$
[Fe/H] ₀	Initial Metallicity ²	$-1.24^{+0.75}_{-0.97}$
Age	Age (Gyr)	$0.00139^{+0.0019}_{-0.00086}$
EEP	Equal Evolutionary Phase ³	147^{+21}_{-36}
A_V	V-band extinction (mag)	$0.74^{+0.31}_{-0.28}$
σ_{SED}	SED photometry error scaling	$9.5^{+1.5}_{-1.2}$
ϖ	Parallax (mas)	$0.434^{+0.040}_{-0.038}$
d	Distance (pc)	2300^{+220}_{-200}
Planetary Parameters:		
		b
P	Period (days)	$0.6700153^{+0.0000014}_{-0.0000017}$
R_p	Radius (R_J)	$1.045^{+0.13}_{-0.097}$
M_p	Mass ⁴ (M_J)	42 ± 31
T_C	Time of conjunction ⁵ (BJD _{TDB})	$2455286.4298^{+0.0046}_{-0.0039}$
T_T	Time of minimum projected separation ⁶ (BJD _{TDB})	$2455286.4298^{+0.0046}_{-0.0039}$
T_0	Optimal conjunction Time ⁷ (BJD _{TDB})	$2456950.7480^{+0.0020}_{-0.0021}$
a	Semi-major axis (AU)	$0.0156^{+0.0012}_{-0.0028}$
i	Inclination (Degrees)	$61.9^{+5.7}_{-11}$
T_{eq}	Equilibrium temperature ⁸ (K)	2850 ± 200
τ_{circ}	Tidal circularization timescale (Gyr)	$0.019^{+0.031}_{-0.015}$
K	RV semi-amplitude ⁴ (m/s)	8400^{+6000}_{-5900}
R_p/R_*	Radius of planet in stellar radii	$0.0566^{+0.0077}_{-0.0033}$
a/R_*	Semi-major axis in stellar radii	$1.75^{+0.19}_{-0.27}$
δ	$(R_p/R_*)^2$	$0.00320^{+0.00093}_{-0.00036}$
δ_I	Transit depth in I (fraction)	$0.00306^{+0.00034}_{-0.00025}$
δ_V	Transit depth in V (fraction)	$0.00292^{+0.00027}_{-0.00031}$
τ	Ingress/egress transit duration (days)	$0.0150^{+0.0027}_{-0.0046}$
T_{14}	Total transit duration (days)	$0.0945^{+0.0064}_{-0.0054}$

Table 1 continued on next page

Table 1 (continued)

Parameter	Units	Values	
T_{FWHM} ..	FWHM transit duration (days)	0.0771 ^{+0.0069} _{-0.021}	
b	Transit Impact parameter	0.829 ^{+0.10} _{-0.091}	
$\delta_{S,2.5\mu m}$..	Blackbody eclipse depth at 2.5 μm (ppm)	940 ⁺⁴⁸⁰ ₋₁₇₀	
$\delta_{S,5.0\mu m}$..	Blackbody eclipse depth at 5.0 μm (ppm)	1290 ⁺⁵⁹⁰ ₋₂₀₀	
$\delta_{S,7.5\mu m}$..	Blackbody eclipse depth at 7.5 μm (ppm)	1420 ⁺⁶²⁰ ₋₂₁₀	
ρ_P	Density ⁴ (cgs)	46 ⁺⁴² ₋₃₅	
$\log g_P$..	Surface gravity ⁴	5.01 ^{+0.24} _{-0.61}	
Θ	Safronov Number	1.25 ^{+1.0} _{-0.90}	
$\langle F \rangle$	Incident Flux (10 ⁹ erg s ⁻¹ cm ⁻²)	15.0 ^{+4.7} _{-3.7}	
T_P	Time of Periastron (BJD _{TDB})	2455286.4298 ^{+0.0046} _{-0.0039}	
T_S	Time of eclipse (BJD _{TDB})	2455286.0948 ^{+0.0046} _{-0.0039}	
T_A	Time of Ascending Node (BJD _{TDB})	2455286.9323 ^{+0.0046} _{-0.0039}	
T_D	Time of Descending Node (BJD _{TDB})	2455286.5973 ^{+0.0046} _{-0.0039}	
V_c/V_e	1.00	
$M_P \sin i$..	Minimum mass ⁴ (M_J)	37 ⁺²⁹ ₋₂₇	
M_P/M_* ..	Mass ratio ⁴	0.039 ^{+0.036} _{-0.027}	
d/R_* ..	Separation at mid transit	1.75 ^{+0.19} _{-0.27}	
P_T	A priori non-grazing transit prob	0.538 ^{+0.093} _{-0.052}	
$P_{T,G}$	A priori transit prob	0.602 ^{+0.12} _{-0.060}	
Wavelength Parameters:		I	V
u_1	linear limb-darkening coeff	0.278 ^{+0.10} _{-0.078}	0.423 ^{+0.14} _{-0.089}
u_2	quadratic limb-darkening coeff	0.288 ^{+0.059} _{-0.063}	0.276 ^{+0.068} _{-0.091}
Transit Parameters:		OGLE UT 2010-03-30 (I)	OGLE UT 2010-03-30 (V)
σ^2	Added Variance	0.00003565 ^{+0.00000057} _{-0.00000056}	0.0000189 ^{+0.00000034} _{-0.00000029}
F_0	Baseline flux	1.000499 ^{+0.000063} _{-0.000064}	0.99967 ^{+0.00039} _{-0.00040}

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