

Table 1. Median values and 68% confidence interval for OGLE-TR-1074.

Parameter	Units	Values
Stellar Parameters:		
M_*	Mass (M_\odot)	$1.64^{+0.25}_{-0.29}$
R_*	Radius (R_\odot)	$2.22^{+0.28}_{-0.17}$
$R_{*,SED}$	Radius ¹ (R_\odot)	$2.27^{+0.27}_{-0.19}$
L_*	Luminosity (L_\odot)	$7.5^{+3.1}_{-2.3}$
F_{Bol}	Bolometric Flux (cgs)	$0.000000000297^{+0.0000000000089}_{-0.0000000000066}$
ρ_*	Density (cgs)	$0.201^{+0.074}_{-0.060}$
$\log g$	Surface gravity (cgs)	$3.94^{+0.10}_{-0.11}$
T_{eff}	Effective Temperature (K)	6360^{+620}_{-590}
$T_{eff,SED}$	Effective Temperature ¹ (K)	6320^{+600}_{-610}
[Fe/H]	Metallicity (dex)	$0.11^{+0.38}_{-3.2}$
[Fe/H] ₀	Initial Metallicity ²	$0.06^{+0.35}_{-3.2}$
Age	Age (Gyr)	$0.0080^{+0.0032}_{-0.0067}$
EEP	Equal Evolutionary Phase ³	186^{+10}_{-30}
A_V	V-band extinction (mag)	$1.54^{+0.33}_{-0.37}$
σ_{SED}	SED photometry error scaling	$9.9^{+1.4}_{-1.1}$
ϖ	Parallax (mas)	$0.356^{+0.036}_{-0.035}$
d	Distance (pc)	2810^{+310}_{-260}
Planetary Parameters:		
		b
P	Period (days)	0.7182068 ± 0.0000015
R_p	Radius (R_J)	$1.20^{+0.34}_{-0.12}$
M_p	Mass ⁴ (M_J)	33^{+100}_{-30}
T_C	Time of conjunction ⁵ (BJD _{TDB})	$2455376.8768^{+0.0037}_{-0.0038}$
T_T	Time of minimum projected separation ⁶ (BJD _{TDB})	$2455376.8768^{+0.0037}_{-0.0038}$
T_0	Optimal conjunction Time ⁷ (BJD _{TDB})	2456956.9317 ± 0.0019
a	Semi-major axis (AU)	$0.01867^{+0.00098}_{-0.0012}$
i	Inclination (Degrees)	$58.6^{+4.3}_{-5.4}$
T_{eq}	Equilibrium temperature ⁸ (K)	3380^{+250}_{-240}
τ_{circ}	Tidal circularization timescale (Gyr)	$0.0111^{+0.024}_{-0.0096}$
K	RV semi-amplitude ⁴ (m/s)	4900^{+13000}_{-4300}
R_p/R_*	Radius of planet in stellar radii	$0.0563^{+0.0080}_{-0.0036}$
a/R_*	Semi-major axis in stellar radii	$1.77^{+0.20}_{-0.17}$
δ	$(R_p/R_*)^2$	$0.00316^{+0.00096}_{-0.00039}$
δ_I	Transit depth in I (fraction)	$0.00278^{+0.00032}_{-0.00028}$
δ_V	Transit depth in V (fraction)	0.00239 ± 0.00027
τ	Ingress/egress transit duration (days)	$0.0253^{+0.016}_{-0.0082}$
T_{14}	Total transit duration (days)	$0.0786^{+0.0071}_{-0.0062}$

Table 1 continued on next page

Table 1 (continued)

Parameter	Units	Values	
T_{FWHM} ..	FWHM transit duration (days)	0.0513 ^{+0.0082} _{-0.0095}	
b	Transit Impact parameter	0.927 ^{+0.030} _{-0.031}	
$\delta_{S,2.5\mu m}$..	Blackbody eclipse depth at 2.5 μm (ppm)	1020 ⁺⁴¹⁰ ₋₁₅₀	
$\delta_{S,5.0\mu m}$..	Blackbody eclipse depth at 5.0 μm (ppm)	1330 ⁺⁵²⁰ ₋₁₉₀	
$\delta_{S,7.5\mu m}$..	Blackbody eclipse depth at 7.5 μm (ppm)	1440 ⁺⁵⁵⁰ ₋₂₀₀	
ρ_P	Density ⁴ (cgs)	23 ⁺³² ₋₂₁	
$\log g_P$..	Surface gravity ⁴	4.83 ^{+0.33} _{-0.98}	
Θ	Safronov Number	0.70 ^{+1.3} _{-0.62}	
$\langle F \rangle$	Incident Flux (10 ⁹ erg s ⁻¹ cm ⁻²)	29.5 ^{+9.7} _{-7.5}	
T_P	Time of Periastron (BJD _{TDB})	2455376.8768 ^{+0.0037} _{-0.0038}	
T_S	Time of eclipse (BJD _{TDB})	2455377.2359 ^{+0.0037} _{-0.0038}	
T_A	Time of Ascending Node (BJD _{TDB})	2455377.4155 ^{+0.0037} _{-0.0038}	
T_D	Time of Descending Node (BJD _{TDB})	2455377.0564 ^{+0.0037} _{-0.0038}	
V_c/V_e	1.00	
$M_P \sin i$..	Minimum mass ⁴ (M_J)	29 ⁺⁸⁰ ₋₂₆	
M_P/M_* ..	Mass ratio ⁴	0.020 ^{+0.063} _{-0.018}	
d/R_* ..	Separation at mid transit	1.77 ^{+0.20} _{-0.17}	
P_T	A priori non-grazing transit prob	0.532 ^{+0.050} _{-0.052}	
$P_{T,G}$	A priori transit prob	0.595 ^{+0.071} _{-0.060}	
Wavelength Parameters:		I	V
u_1	linear limb-darkening coeff	0.193 ^{+0.066} _{-0.062}	0.356 ^{+0.071} _{-0.062}
u_2	quadratic limb-darkening coeff	0.312 ^{+0.055} _{-0.056}	0.317 ^{+0.056} _{-0.059}
Transit Parameters:		OGLE UT 2010-06-29 (I)	OGLE UT 2010-06-29 (V)
σ^2	Added Variance	0.00002171 \pm 0.00000036	0.0000162 ^{+0.0000028} _{-0.0000025}
F_0	Baseline flux	1.000125 \pm 0.000049	0.99977 \pm 0.00037

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