

Table 1. Median values and 68% confidence interval for OGLE-TR-1025.

Parameter	Units	Values
Stellar Parameters:		
M_*	Mass (M_\odot)	$0.42^{+1.1}_{-0.14}$
R_*	Radius (R_\odot)	$2.85^{+0.23}_{-0.21}$
$R_{*,SED}$	Radius ¹ (R_\odot)	$2.89^{+0.23}_{-0.22}$
L_*	Luminosity (L_\odot)	$4.10^{+1.2}_{-0.82}$
F_{Bol}	Bolometric Flux (cgs)	$0.000000000338^{+0.0000000000042}_{-0.0000000000036}$
ρ_*	Density (cgs)	$0.026^{+0.050}_{-0.010}$
$\log g$	Surface gravity (cgs)	$3.16^{+0.50}_{-0.20}$
T_{eff}	Effective Temperature (K)	4880^{+260}_{-240}
$T_{eff,SED}$	Effective Temperature ¹ (K)	4850^{+270}_{-230}
[Fe/H]	Metallicity (dex)	$-3.34^{+3.3}_{-0.48}$
[Fe/H] ₀	Initial Metallicity ²	$-3.36^{+3.3}_{-0.48}$
Age	Age (Gyr)	$0.000084^{+0.00074}_{-0.000055}$
EEP	Equal Evolutionary Phase ³	69^{+66}_{-30}
A_V	V-band extinction (mag)	1.21 ± 0.23
σ_{SED}	SED photometry error scaling	$9.6^{+1.5}_{-1.2}$
ϖ	Parallax (mas)	$0.506^{+0.043}_{-0.044}$
d	Distance (pc)	1980^{+190}_{-150}
Planetary Parameters:		
		b
P	Period (days)	$6.949874^{+0.000096}_{-0.000076}$
R_p	Radius (R_J)	$1.030^{+0.080}_{-0.074}$
M_p	Mass ⁴ (M_J)	45^{+27}_{-29}
T_C	Time of conjunction ⁵ (BJD _{TDB})	$2455377.984^{+0.021}_{-0.031}$
T_T	Time of minimum projected separation ⁶ (BJD _{TDB})	$2455377.984^{+0.021}_{-0.031}$
T_0	Optimal conjunction Time ⁷ (BJD _{TDB})	$2456913.907^{+0.014}_{-0.021}$
a	Semi-major axis (AU)	$0.0550^{+0.028}_{-0.0064}$
i	Inclination (Degrees)	$79.2^{+5.8}_{-2.8}$
T_{eq}	Equilibrium temperature ⁸ (K)	1670^{+110}_{-180}
τ_{circ}	Tidal circularization timescale (Gyr)	410^{+530}_{-310}
K	RV semi-amplitude ⁴ (m/s)	6700^{+5900}_{-4400}
R_p/R_*	Radius of planet in stellar radii	$0.0371^{+0.0029}_{-0.0028}$
a/R_*	Semi-major axis in stellar radii	$4.20^{+1.7}_{-0.59}$
δ	$(R_p/R_*)^2$	$0.00138^{+0.00022}_{-0.00020}$
δ_I	Transit depth in I (fraction)	$0.00140^{+0.00021}_{-0.00020}$
δ_V	Transit depth in V (fraction)	$0.00140^{+0.00027}_{-0.00023}$
τ	Ingress/egress transit duration (days)	$0.033^{+0.014}_{-0.017}$
T_{14}	Total transit duration (days)	$0.368^{+0.034}_{-0.051}$

Table 1 continued on next page

Table 1 (continued)

Parameter	Units	Values	
T_{FWHM} ..	FWHM transit duration (days)	0.335 ^{+0.033} _{-0.053}	
b	Transit Impact parameter	0.782 ^{+0.081} _{-0.24}	
$\delta_{S,2.5\mu m}$..	Blackbody eclipse depth at 2.5 μm (ppm)	104 ⁺³⁰ ₋₄₉	
$\delta_{S,5.0\mu m}$..	Blackbody eclipse depth at 5.0 μm (ppm)	243 ⁺⁵⁴ ₋₇₇	
$\delta_{S,7.5\mu m}$..	Blackbody eclipse depth at 7.5 μm (ppm)	310 ⁺⁶⁴ ₋₈₅	
ρ_P	Density ⁴ (cgs)	52 ⁺³⁷ ₋₃₅	
$\log g_P$..	Surface gravity ⁴	5.03 ^{+0.22} _{-0.47}	
Θ	Safronov Number	9.7 ^{+10.} _{-6.6}	
$\langle F \rangle$	Incident Flux (10 ⁹ erg s ⁻¹ cm ⁻²)	1.76 ^{+0.51} _{-0.65}	
T_P	Time of Periastron (BJD _{TDB})	2455377.984 ^{+0.021} _{-0.031}	
T_S	Time of eclipse (BJD _{TDB})	2455381.459 ^{+0.021} _{-0.031}	
T_A	Time of Ascending Node (BJD _{TDB})	2455383.197 ^{+0.021} _{-0.031}	
T_D	Time of Descending Node (BJD _{TDB})	2455379.722 ^{+0.021} _{-0.031}	
V_c/V_e	1.00	
$M_P \sin i$..	Minimum mass ⁴ (M_J)	44 ⁺²⁷ ₋₂₈	
M_P/M_* ..	Mass ratio ⁴	0.086 ^{+0.097} _{-0.064}	
d/R_* ..	Separation at mid transit	4.20 ^{+1.7} _{-0.59}	
P_T	A priori non-grazing transit prob	0.229 ^{+0.038} _{-0.065}	
$P_{T,G}$	A priori transit prob	0.247 ^{+0.040} _{-0.071}	
Wavelength Parameters:		I	V
u_1	linear limb-darkening coeff	0.207 ^{+0.14} _{-0.062}	0.377 ^{+0.19} _{-0.064}
u_2	quadratic limb-darkening coeff	0.328 ^{+0.060} _{-0.081}	0.300 ^{+0.061} _{-0.11}
Transit Parameters:		OGLE UT 2010-06-30 (I)	OGLE UT 2010-06-30 (V)
σ^2	Added Variance	0.00000914 ^{+0.00000024} _{-0.00000023}	0.0000210 ^{+0.00000032} _{-0.00000028}
F_0	Baseline flux	1.000202 ^{+0.000041} _{-0.000042}	1.00005 \pm 0.00038

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