

Table 1. Median values and 68% confidence interval for OGLE-TR-1004.

Parameter	Units	Values
Stellar Parameters:		
M_*	Mass (M_\odot)	1.93 ± 0.14
R_*	Radius (R_\odot)	$1.96^{+0.19}_{-0.18}$
$R_{*,SED}$	Radius ¹ (R_\odot)	$2.08^{+0.18}_{-0.16}$
L_*	Luminosity (L_\odot)	$12.6^{+3.3}_{-2.7}$
F_{Bol}	Bolometric Flux (cgs)	$0.00000000140^{+0.0000000000025}_{-0.0000000000022}$
ρ_*	Density (cgs)	$0.363^{+0.11}_{-0.085}$
$\log g$	Surface gravity (cgs)	$4.142^{+0.077}_{-0.079}$
T_{eff}	Effective Temperature (K)	7780 ± 400
$T_{eff,SED}$	Effective Temperature ¹ (K)	7560^{+340}_{-360}
[Fe/H]	Metallicity (dex)	$0.31^{+0.12}_{-0.19}$
[Fe/H] ₀	Initial Metallicity ²	$0.370^{+0.093}_{-0.15}$
Age	Age (Gyr)	$0.43^{+0.31}_{-0.27}$
EEP	Equal Evolutionary Phase ³	329^{+15}_{-33}
A_V	V-band extinction (mag)	$2.27^{+0.16}_{-0.18}$
σ_{SED}	SED photometry error scaling	$9.0^{+1.6}_{-1.2}$
ϖ	Parallax (mas)	$0.591^{+0.049}_{-0.046}$
d	Distance (pc)	1690^{+140}_{-130}
Planetary Parameters:		
		b
P	Period (days)	10.186892 ± 0.000020
R_P	Radius (R_J)	1.52 ± 0.16
M_P	Mass ⁴ (M_J)	134^{+17}_{-130}
T_C	Time of conjunction ⁵ (BJD _{TDB})	$2455379.8420^{+0.0032}_{-0.0033}$
T_T	Time of minimum projected separation ⁶ (BJD _{TDB})	$2455379.8420^{+0.0032}_{-0.0033}$
T_0	Optimal conjunction Time ⁷ (BJD _{TDB})	2456826.3807 ± 0.0017
a	Semi-major axis (AU)	$0.1166^{+0.0029}_{-0.0033}$
i	Inclination (Degrees)	$86.64^{+0.46}_{-0.51}$
T_{eq}	Equilibrium temperature ⁸ (K)	1536^{+76}_{-73}
τ_{circ}	Tidal circularization timescale (Gyr)	1670^{+750}_{-1600}
K	RV semi-amplitude ⁴ (m/s)	7730^{+950}_{-7500}
R_P/R_*	Radius of planet in stellar radii	0.0797 ± 0.0019
a/R_*	Semi-major axis in stellar radii	$12.8^{+1.1}_{-1.0}$
δ	$(R_P/R_*)^2$	$0.00635^{+0.00031}_{-0.00030}$
δ_I	Transit depth in I (fraction)	$0.00639^{+0.00028}_{-0.00027}$
δ_V	Transit depth in V (fraction)	0.00642 ± 0.00027
τ	Ingress/egress transit duration (days)	$0.0310^{+0.0063}_{-0.0050}$
T_{14}	Total transit duration (days)	$0.1964^{+0.0065}_{-0.0055}$

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Table 1 (continued)

Parameter	Units	Values	
T_{FWHM} . . .	FWHM transit duration (days)	$0.1652^{+0.0038}_{-0.0039}$	
b	Transit Impact parameter	$0.752^{+0.043}_{-0.051}$	
$\delta_{S,2.5\mu m}$. . .	Blackbody eclipse depth at $2.5\mu m$ (ppm)	167^{+31}_{-26}	
$\delta_{S,5.0\mu m}$. . .	Blackbody eclipse depth at $5.0\mu m$ (ppm)	515^{+59}_{-53}	
$\delta_{S,7.5\mu m}$. . .	Blackbody eclipse depth at $7.5\mu m$ (ppm)	713^{+70}_{-64}	
ρ_P	Density ⁴ (cgs)	$42.2^{+8.8}_{-40}$	
$\log g_P$	Surface gravity ⁴	$5.135^{+0.038}_{-1.5}$	
Θ	Safronov Number	$10.52^{+0.63}_{-10.}$	
$\langle F \rangle$	Incident Flux ($10^9 \text{ erg s}^{-1} \text{ cm}^{-2}$)	$1.26^{+0.27}_{-0.22}$	
T_P	Time of Periastron (BJD _{TDB})	$2455379.8420^{+0.0032}_{-0.0033}$	
T_S	Time of eclipse (BJD _{TDB})	$2455374.7485^{+0.0032}_{-0.0033}$	
T_A	Time of Ascending Node (BJD _{TDB})	$2455387.4821^{+0.0032}_{-0.0033}$	
T_D	Time of Descending Node (BJD _{TDB})	$2455382.3887^{+0.0032}_{-0.0033}$	
V_c/V_e	1.00	
$M_P \sin i$	Minimum mass ⁴ (M_J)	134^{+17}_{-130}	
M_P/M_*	Mass ratio ⁴	$0.0657^{+0.0094}_{-0.064}$	
d/R_*	Separation at mid transit	$12.8^{+1.1}_{-1.0}$	
P_T	A priori non-grazing transit prob	$0.0717^{+0.0063}_{-0.0054}$	
$P_{T,G}$	A priori transit prob	$0.0841^{+0.0075}_{-0.0065}$	
Wavelength Parameters:		I	V
u_1	linear limb-darkening coeff	0.135 ± 0.051	$0.292^{+0.052}_{-0.051}$
u_2	quadratic limb-darkening coeff	$0.302^{+0.055}_{-0.056}$	0.344 ± 0.051
Transit Parameters:		OGLE UT 2010-07-02 (I)	OGLE UT 2010-07-02 (V)
σ^2	Added Variance	$0.00000565^{+0.00000016}_{-0.00000015}$	$0.0000236^{+0.00000033}_{-0.00000029}$
F_0	Baseline flux	0.999877 ± 0.000030	0.99997 ± 0.00039

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