

Table 1. Median values and 68% confidence interval for OGLE-TR-1069.

Parameter	Units	Values
Stellar Parameters:		
M_*	Mass (M_\odot)	$0.7724^{+0.018}_{-0.0090}$
R_*	Radius (R_\odot)	$2.505^{+0.037}_{-0.034}$
$R_{*,SED}$	Radius ¹ (R_\odot)	$2.57^{+0.13}_{-0.12}$
L_*	Luminosity (L_\odot)	$7.1^{+1.2}_{-1.1}$
F_{Bol}	Bolometric Flux (cgs)	$0.000000000249^{+0.0000000000031}_{-0.0000000000030}$
ρ_*	Density (cgs)	$0.0697^{+0.0026}_{-0.0027}$
$\log g$	Surface gravity (cgs)	$3.531^{+0.011}_{-0.012}$
T_{eff}	Effective Temperature (K)	5960^{+230}_{-250}
$T_{eff,SED}$	Effective Temperature ¹ (K)	5890^{+270}_{-290}
[Fe/H]	Metallicity (dex)	$-3.02^{+0.96}_{-0.79}$
[Fe/H] ₀	Initial Metallicity ²	$-2.91^{+0.91}_{-0.73}$
Age	Age (Gyr)	$13.20^{+0.47}_{-1.0}$
EEP	Equal Evolutionary Phase ³	$470.9^{+3.4}_{-3.6}$
A_V	V-band extinction (mag)	$1.48^{+0.18}_{-0.21}$
σ_{SED}	SED photometry error scaling	$8.0^{+2.9}_{-1.9}$
ϖ	Parallax (mas)	$0.332^{+0.018}_{-0.017}$
d	Distance (pc)	3010 ± 160
Planetary Parameters:		
		b
P	Period (days)	10.605365 ± 0.000028
R_P	Radius (R_J)	$3.054^{+0.043}_{-0.040}$
M_P	Mass ⁴ (M_J)	$0.4111^{+0.0022}_{-0.0048}$
T_C	Time of conjunction ⁵ (BJD _{TDB})	2455383.6787 ± 0.0051
T_T	Time of minimum projected separation ⁶ (BJD _{TDB})	2455383.6787 ± 0.0051
T_0	Optimal conjunction Time ⁷ (BJD _{TDB})	2457122.9587 ± 0.0023
a	Semi-major axis (AU)	$0.08669^{+0.00068}_{-0.00034}$
i	Inclination (Degrees)	$89.62^{+0.27}_{-0.43}$
T_{eq}	Equilibrium temperature ⁸ (K)	1543^{+59}_{-66}
τ_{circ}	Tidal circularization timescale (Gyr)	$0.1102^{+0.0072}_{-0.0068}$
K	RV semi-amplitude ⁴ (m/s)	$45.01^{+0.54}_{-0.87}$
R_P/R_*	Radius of planet in stellar radii	0.1253 ± 0.0014
a/R_*	Semi-major axis in stellar radii	$7.455^{+0.092}_{-0.098}$
δ	$(R_P/R_*)^2$	0.01569 ± 0.00034
δ_I	Transit depth in I (fraction)	$0.01788^{+0.00044}_{-0.00043}$
δ_V	Transit depth in V (fraction)	$0.01908^{+0.00073}_{-0.00068}$
τ	Ingress/egress transit duration (days)	$0.05739^{+0.00080}_{-0.00075}$
T_{14}	Total transit duration (days)	$0.5105^{+0.0062}_{-0.0058}$

Table 1 continued on next page

Table 1 (continued)

Parameter	Units	Values	
T_{FWHM} ..	FWHM transit duration (days)	0.4530 ^{+0.0058} _{-0.0054}	
b	Transit Impact parameter	0.050 ^{+0.056} _{-0.035}	
$\delta_{S,2.5\mu m}$..	Blackbody eclipse depth at 2.5 μm (ppm)	628 ⁺⁵⁶ ₋₆₂	
$\delta_{S,5.0\mu m}$..	Blackbody eclipse depth at 5.0 μm (ppm)	1783 ⁺⁷³ ₋₈₃	
$\delta_{S,7.5\mu m}$..	Blackbody eclipse depth at 7.5 μm (ppm)	2409 ⁺⁷¹ ₋₇₉	
ρ_P	Density ⁴ (cgs)	0.01785 ^{+0.00074} _{-0.00075}	
$\log g_P$	Surface gravity ⁴	2.037 ^{+0.012} _{-0.013}	
Θ	Safronov Number	0.03007 ^{+0.00060} _{-0.00081}	
$\langle F \rangle$	Incident Flux (10 ⁹ erg s ⁻¹ cm ⁻²)	1.29 \pm 0.21	
T_P	Time of Periastron (BJD _{TDB})	2455383.6787 \pm 0.0051	
T_S	Time of eclipse (BJD _{TDB})	2455378.3760 \pm 0.0051	
T_A	Time of Ascending Node (BJD _{TDB})	2455391.6327 \pm 0.0051	
T_D	Time of Descending Node (BJD _{TDB})	2455386.3300 \pm 0.0051	
V_c/V_e	1.00	
$M_P \sin i$..	Minimum mass ⁴ (M_J)	0.4111 ^{+0.0022} _{-0.0048}	
M_P/M_*	Mass ratio ⁴	0.0005063 ^{+0.0000078} _{-0.000013}	
d/R_*	Separation at mid transit	7.455 ^{+0.092} _{-0.098}	
P_T	A priori non-grazing transit prob	0.1173 ^{+0.0017} _{-0.0015}	
$P_{T,G}$	A priori transit prob	0.1509 ^{+0.0019} _{-0.0018}	
Wavelength Parameters:		I	V
u_1	linear limb-darkening coeff	0.248 ^{+0.046} _{-0.047}	0.360 ^{+0.050} _{-0.051}
u_2	quadratic limb-darkening coeff	0.308 ^{+0.051} _{-0.048}	0.303 ^{+0.050} _{-0.052}
Transit Parameters:		OGLE UT 2010-07-06 (I)	OGLE UT 2010-07-06 (V)
σ^2	Added Variance	0.00003289 ^{+0.00000052} _{-0.00000051}	0.000150 ^{+0.000017} _{-0.000015}
F_0	Baseline flux	1.000562 \pm 0.000057	1.00084 ^{+0.00088} _{-0.00089}

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