

Table 2. System Parameters for Kepler-5

Parameter	Value	Notes
Orbital period $P$ (d)	$3.548460 \pm 0.000032$	A
Midtransit time $E$ (HJD)	$2454955.90122 \pm 0.00021$	A
Scaled semimajor axis $a/R_*$	$6.06 \pm 0.14$	A
Scaled planet radius $R_P/R_*$	$0.08195^{+0.00030}_{-0.00047}$	A
Impact parameter $b \equiv a \cos i/R_*$	$0.393^{+0.051}_{-0.043}$	A
Orbital inclination $i$ (deg)	$86^\circ.3 \pm 0.5$	A
Orbital semi-amplitude $K$ ( $\text{m s}^{-1}$ )	$227.5 \pm 2.8$	A,B
Orbital eccentricity $e$	$< 0.024$	A,B,G
Center-of-mass velocity $\gamma$ ( $\text{m s}^{-1}$ )	0	A,B
<i>Observed stellar parameters</i>		
Effective temperature $T_{\text{eff}}$ (K)	$6297 \pm 60$	C
Spectroscopic gravity $\log g$ (cgs)	$3.96 \pm 0.10$	C
Metallicity [Fe/H]	$+0.04 \pm 0.06$	C
Projected rotation $v \sin i$ ( $\text{km s}^{-1}$ )	$4.8 \pm 1.0$	C
Mean radial velocity ( $\text{km s}^{-1}$ )	$-46.7 \pm 4.1$	B
<i>Derived stellar parameters</i>		
Mass $M_*$ ( $M_\odot$ )	$1.374^{+0.040}_{-0.059}$	C,D
Radius $R_*$ ( $R_\odot$ )	$1.793^{+0.043}_{-0.062}$	C,D
Surface gravity $\log g_*$ (cgs)	$4.07 \pm 0.02$	C,D
Luminosity $L_*$ ( $L_\odot$ )	$4.67^{+0.63}_{-0.59}$	C,D
Age (Gyr)	$3.0 \pm 0.6$	C,D
<i>Planetary parameters</i>		
Mass $M_P$ ( $M_J$ )	$2.114^{+0.056}_{-0.059}$	A,B,C,D
Radius $R_P$ ( $R_J$ , equatorial)	$1.431^{+0.041}_{-0.052}$	A,B,C,D
Density $\rho_P$ ( $\text{g cm}^{-3}$ )	$0.894 \pm 0.079$	A,B,C,D
Surface gravity $\log g_P$ (cgs)	$3.41 \pm 0.03$	A,B,C,D
Orbital semimajor axis $a$ (AU)	$0.05064 \pm 0.00070$	E
Equilibrium temperature $T_{\text{eq}}$ (K)	$1868 \pm 284$	F

Note. —

A: Based on the photometry.

B: Based on the radial velocities.

C: Based on a MOOG analysis of the FIES spectra.

D: Based on the Yale-Yonsei stellar evolution tracks.

E: Based on Newton’s version of Kepler’s Third Law and total mass.

F: Assumes Bond albedo = 0.1 and complete redistribution.

G: 1 sigma upper limit