# Erratum: "An 11 Earth-mass, Long-period Sub-Neptune Orbiting a Sun-like Star"
## (2019, AJ, 158, 165)

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The semimajor axis and planet insolation flux of Kepler-538b were incorrectly calculated in the published article. This error did not impact any other parameters or any other results in the paper. Table 2 has been included in full here with the corrected semimajor axis and planet insolation flux values.

**Table 2**
Transit and RV Parameters of Kepler-538b

| Parameter | Unit | This Paper | Priors |
|---|---|---|---|
| *Transit Parameters* | | | |
| Period $P$ | day | $81.73778 \pm 0.00013$ | Unif(81.73666, 81.73896) |
| Time of first transit | BJD-2454833 | $211.6789^{+0.0010}_{-0.0011}$ | Unif(211.6671, 211.6901) |
| Orbital eccentricity $e$ | ... | $0.041^{+0.034}_{-0.029}$ ($<0.11$)[a] | Beta(0.867, 3.03)[b,c] |
| Longitude of periastron $\omega$ | deg | $140^{+140}_{-90}$ | Unif(0, 360) |
| Impact parameter $b$ | ... | $0.41^{+0.10}_{-0.21}$ | Unif(0, 1) |
| Transit duration $t_{14}$ | hr | $6.62^{+0.21}_{-0.13}$ | Unif(0, 24) |
| Radius ratio $R_p/R_*$ | ... | $0.02329^{+0.00039}_{-0.00033}$ | Jeffreys(0.001, 1) |
| Quadratic limb-darkening parameter $q_1$ | ... | $0.164^{+0.067}_{-0.042}$ | Unif(0, 1) |
| Quadratic limb-darkening parameter $q_2$ | ... | $0.74^{+0.16}_{-0.22}$ | Unif(0, 1) |
| Normalized baseline offset | ppm | $-2.1^{+2.7}_{-2.8}$ | Unif($-100$, 100) |
| Photometric white noise amplitude | ppm | $112.2^{+2.5}_{-2.4}$ | ModJeffreys(1, 1000, 234) |
| *RV Parameters* | | | |
| Semi-amplitude $K$ | m s$^{-1}$ | $1.69^{+0.39}_{-0.38}$ | ModJeffreys(0.01, 10, 2.1) |
| HIRES RV white noise amplitude | m s$^{-1}$ | $3.25^{+0.56}_{-0.48}$ | ModJeffreys(0, 10, 2.1) |
| HARPS-N RV white noise amplitude | m s$^{-1}$ | $2.24^{+0.29}_{-0.27}$ | ModJeffreys(0, 10, 2.1) |

[22] National Science Foundation Graduate Research Fellow.
[23] Fulbright Fellow.
[24] NASA Sagan Fellow.

**Table 2**
(Continued)

| Parameter | Unit | This Paper | Priors |
|---|---|---|---|
| HARPS-N FWHM white noise amplitude | m s$^{-1}$ | $6.71^{+0.52}_{-0.46}$ | Jeffreys(0.01, 10) |
| HIRES RV offset amplitude | m s$^{-1}$ | $-0.50^{+0.78}_{-0.87}$ | Unif($-5$, 5) |
| HARPS-N RV offset amplitude | m s$^{-1}$ | $-37322.07^{+0.58}_{-0.73}$ | Unif($-37330$, $-37315$) |
| HARPS-N FWHM offset amplitude | m s$^{-1}$ | $6655.4^{+7.5}_{-8.6}$ | Unif(6600, 6700) |
| GP RV convective blueshift amplitude $V_c$ | m s$^{-1}$ | $0.86^{+0.75}_{-0.54}$ | ModJeffreys(0, 15, 2.1) |
| GP RV rotation modulation amplitude $V_r$ | m s$^{-1}$ | $4.0^{+5.7}_{-3.0}$ | ModJeffreys(0, 15, 2.1) |
| GP FWHM amplitude $F_c$ | m s$^{-1}$ | $13.3^{+5.9}_{-4.9}$ | Jeffreys(0.01, 25) |
| GP stellar rotation period $P_*$ | day | $25.2^{+6.5}_{-1.2}$[d] | Unif(20, 40) |
| GP inverse harmonic complexity $\lambda_p$ | ... | $5.2^{+2.8}_{-2.5}$ | Unif(0.25, 10) |
| GP evolution timescale $\lambda_e$ | day | $370^{+200}_{-140}$ | Jeffreys(1, 1000) |
| *Derived Parameters* | | | |
| Planet radius $R_p$ | $R_\oplus$ | $2.215^{+0.040}_{-0.034}$ | ... |
| System scale $a/R_*$ | ... | $87.5^{+1.5}_{-1.6}$ | ... |
| Planet semimajor axis $a$ | au | $0.3548^{+0.0066}_{-0.0068}$ | ... |
| Orbital inclination $i$ | degree | $89.73^{+0.14}_{-0.06}$ | ... |
| Planet mass $M_p$ | $M_\oplus$ | $10.6^{+2.5}_{-2.4}$ | ... |
| Planet mean density $\rho_p$ | $\rho_\oplus$ | $0.98 \pm 0.23$ | ... |
| Planet mean density $\rho_p$ | g cm$^{-3}$ | $5.4 \pm 1.3$ | ... |
| Planet insolation flux $S_p$ | $S_\oplus$ | $5.19^{+0.31}_{-0.28}$ | ... |
| Planet equilibrium temperature $T_{eq}$ (albedo = 0.3) | K | 380 | ... |
| Planet equilibrium temperature $T_{eq}$ (albedo = 0.5) | K | 350 | ... |

**Notes.**
[a] 95% confidence limit.
[b] Beta distribution parameter values from Kipping (2013).
[c] Prior also truncated to exclude $e > 0.95$.
[d] Rotation period uncertainties are highly asymmetric because the posterior includes a large peak at 25 days and a smaller peak at 31 days.

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**References**

Kipping, D. M. 2013, MNRAS, 434, L51