Erratum: Physical properties, star-spot activity, orbital obliquity and transmission spectrum of the Qatar-2 planetary system from multicolour photometry

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ABSTRACT

Key words: errata – techniques: photometric – stars: fundamental parameters – stars: individual: Qatar-2 – planetary systems.

The paper 'Physical properties, star-spot activity, orbital obliquity and transmission spectrum of the Qatar-2 planetary system from multicolour photometry' was published in MNRAS, 443, 2391–2409 (2014).

The date reported in Table 1, Figure 1 (top panel), figure 2, figure 6 (top panel) for the first transit observed with the GROND camera is 2012/04/02. Instead it is 2012/04/05. However, the time difference between the starspots used in our calculation was correct.

In Sect. 6, under the assumption that starspots #1 and #2 are the same starspot occulted by the planet during the first two transit events monitored with GROND, we estimated that the rotational velocity and period for the star at a colatitude of 72° were equal to $v_{(72°)} = 3.28 \pm 0.13\,\mathrm{km\,s^{-1}}$ and $P_{\mathrm{rot}} = 11.4 \pm 0.5\,\mathrm{d}$, respectively. Due to a sign error in our calculation, the two values instead are $v_{(72°)} = 2.51 \pm 0.05\,\mathrm{km\,s^{-1}}$ and $P_{\mathrm{rot}} = 14.8 \pm 0.3\,\mathrm{d}$, respectively. The latter value is in good agreement with the equatorial one coming from equation (3). Consequently, the sky-projected spin orbit alignment result to be $\lambda = 4°.3 \pm 4°.6$, very similar to the value that we reported initially, which implies that the planet Qatar-2 b is well aligned with the rotational axis of its parent star.

In the same way, under the assumption that starspots #1 and #3 are the same starspot occulted by the planet during these two transits monitored with GROND, the rotational velocity and period for the star is equal to $v_{(72°)} =$

$2.11 \pm 0.03\,\mathrm{km\,s^{-1}}$ and $P_{\mathrm{rot}} = 17.7 \pm 0.3\,\mathrm{d}$, respectively. Finally, we found $\lambda = 4°.0 \pm 8°.5$, which is fully consistent with the previous measurement.

REFERENCES

Mancini L., et al., 2014, MNRAS, 443, 2391

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