A&A, 694, C7 (2025)
https://doi.org/10.1051/0004-6361/202453505e

Astronomy & Astrophysics

Super-slowly rotating Ap (ssrAp) stars: Spectroscopic study *(Corrigendum)*

G. Mathys[1,⋆], D. L. Holdsworth[2,3], M. Giarrusso[4], D. W. Kurtz[5,2], G. Catanzaro[4], and F. Leone[6,4]

[1] European Southern Observatory, Alonso de Cordova 3107, Vitacura, Santiago, Chile
[2] Jeremiah Horrocks Institute, University of Central Lancashire, Preston PR1 2HE, UK
[3] South African Astronomical Observatory, PO Box 9, Observatory 7935, Cape Town, South Africa
[4] INAF–Osservatorio Astrofisico di Catania, Via S. Sofia 78, 95123 Catania, Italy
[5] Centre for Space Research, North-West University, Mahikeng 2745, South Africa
[6] Dipartimento di Fisica e Astronomia, Sezione Astrofisica, Università di Catania, Via S. Sofia 78, I-95123 Catania, Italy

A&A, 691, A186 (2024), https://doi.org/10.1051/0004-6361/202451437

Key words. errata, addenda – binaries: spectroscopic – stars: chemically peculiar – stars: magnetic field – stars: oscillations – stars: rotation

In our spectroscopic study of the super-slowly rotating Ap (ssrAp) stars, for the spectra recorded with HARPS-N, an erroneous value ($a_{\rm inst}$ = 1.23 km^2 s^{-2}) was used for the contribution of the instrumental broadening to the Doppler term of the line width. With the correct value, $a_{\rm inst}$ = 6.13 km^2 s^{-2}, the upper limits of the projected equatorial velocity $v \sin i$ of the analysed stars must be updated as shown in Table 1.

The revised values are lower than the originally published ones, so that, overall, the considered stars are more likely to be super-slow rotators. More specifically, the conclusion that HD 96003, HD 96571, BD+39 4435, and BD+46 570 are almost certainly ssrAp stars is confirmed or strengthened. Moreover, HD 236298 now appears more likely to be super-slowly rotating than to have a moderately long period. We also confirm that HD 97127 must either be a ssrAp star or have a period length between ∼20 d and ∼50 d, while the observed line widths in HD 7410 are fully compatible with the period value in the literature, $P_{\rm rot}$ = 37$^{\rm d}$.08 (Bernhard et al. 2020).

On the other hand, unbeknownst to us, the wavelength calibration of the FEROS spectra of TIC 170419024 (HD 151860) and TIC 444094235 (HD 85284) is not appropriate for the determination of the radial velocities. Accordingly, the values that we derived from the FEROS observations of these two stars should be ignored. With only one value at a single epoch for each of them based on a SALT-HRS spectrum, we cannot draw any conclusion on their radial velocity variability. Our claim that HD 85284 and HD 151860 belong to spectroscopic binaries is not founded. We do not have the necessary elements of information to test this eventuality.

Finally, upon request of the editor in chief, we have uploaded the reduced spectra of HARPS-N, SALT-HRS, CAOS, FEROS, and ESPaDOnS used in our study to the CDS.

Table 1. Updated upper limits of the projected equatorial velocity.

TIC	Other ID	$(v \sin i)_{\rm max}$ Orig. (km s^{-1})	Corr. (km s^{-1})	$\sigma(v \sin i)$ (km s^{-1})
77038207	HD 96003	0.0	0.0	0.6
77128654	HD 97127	3.9	3.3	0.8
154786038	HD 96571	2.6	1.3	0.3
165446000	BD+39 4435	1.4	0.0	0.9
202899762	BD+46 570	0.0	0.0	0.6
301946105	HD 7410	4.8	4.3	0.3
347202840	HD 236298	3.1	2.1	0.3

Notes. Columns 1 and 2 list the stars by TIC number and by another identifier. In Col. 3, the upper limit of the projected equatorial velocity is given as it appears in the originally published version of the paper, for comparison with the corrected value derived here (Col. 4). Column 5 contains the uncertainty of each $v \sin i$ determination.

Data availability

HARPS-N, SALT-HRS, CAOS, FEROS, and ESPaDOnS are available at the CDS via anonymous ftp to cdsarc.cds.unistra.fr (130.79.128.5) or via https://cdsarc.cds.unistra.fr/viz-bin/cat/J/A+A/691/A186

References

Bernhard, K., Hümmerich, S., & Paunzen, E. 2020, MNRAS, 493, 3293

⋆ Corresponding author; gmathys@eso.org