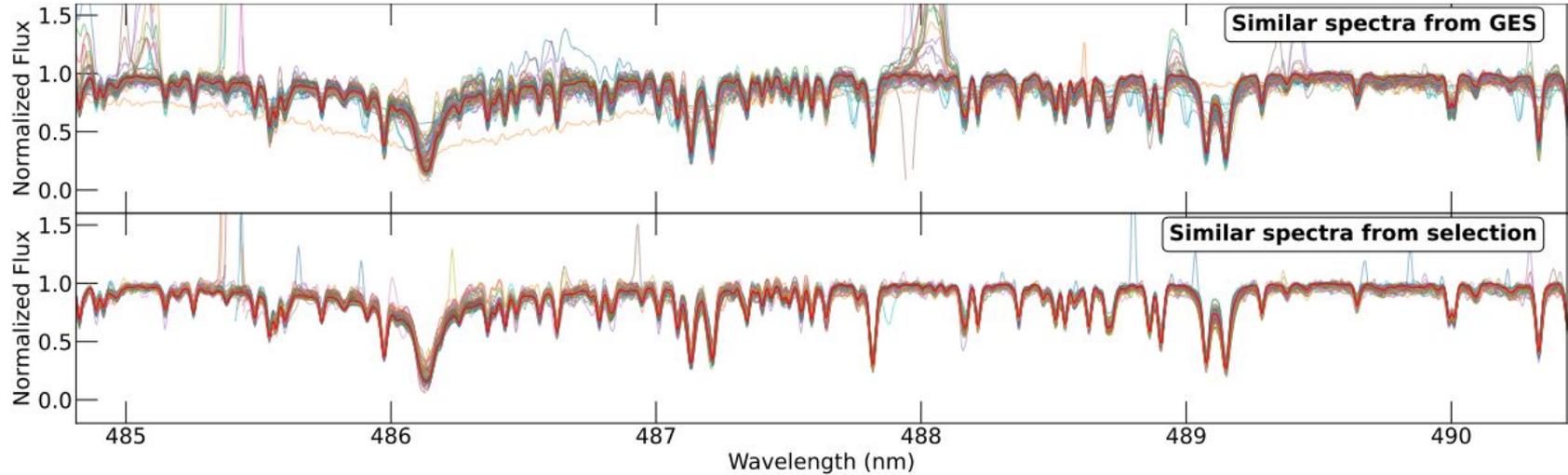


Sergen Özdemir

In collaboration with R. Smiljanic, J.E. Martínez Fernández, et al.

Opening moves of CHESS*: Similarity analysis in large spectroscopic datasets

Martínez Fernández et al. 2025 (A&A, 704, A61)

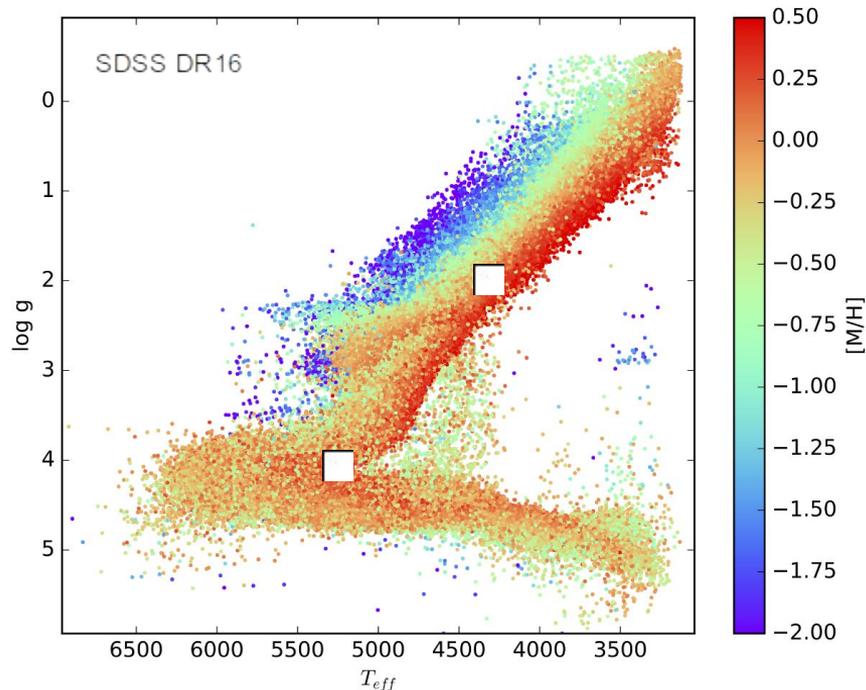


Sergen Özdemir

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Similarity Analysis

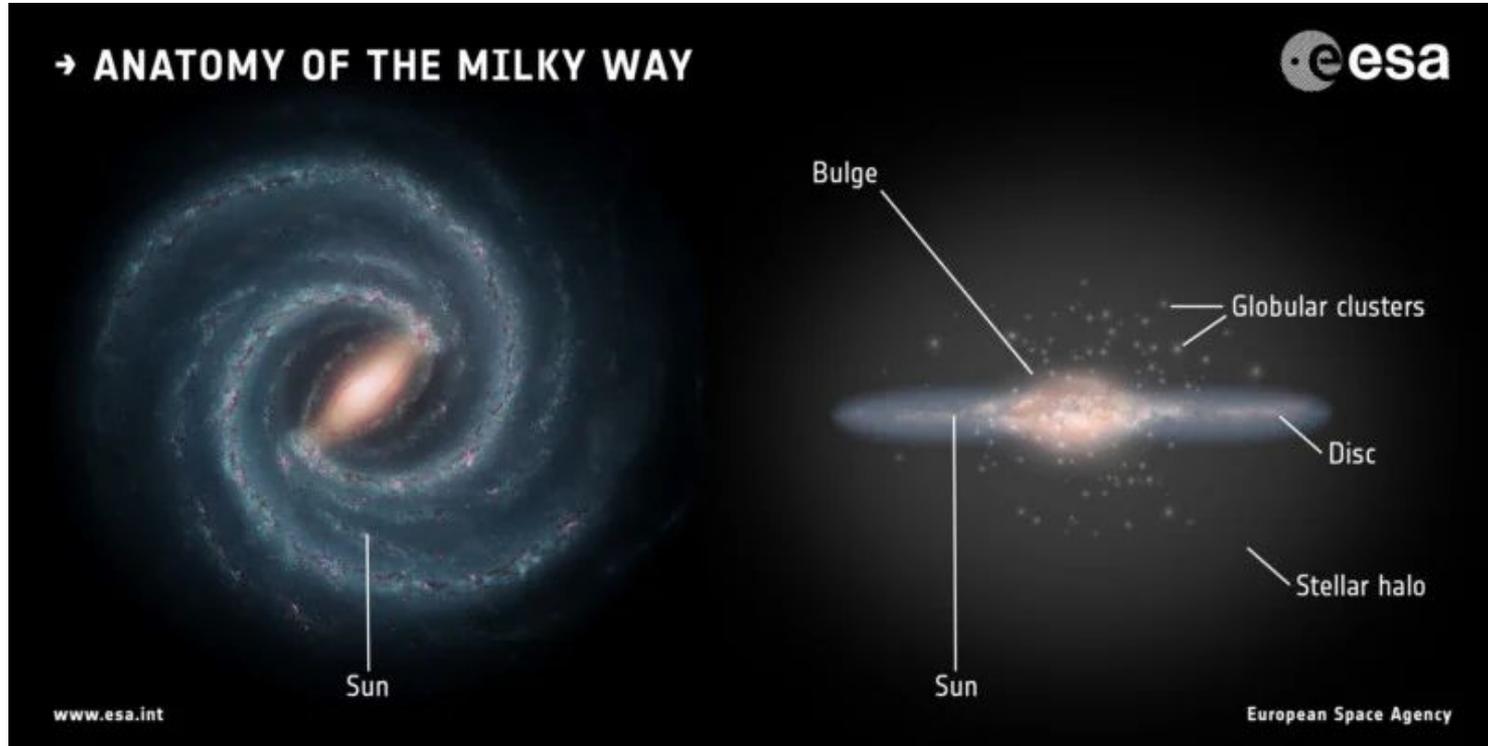
- High precision and accuracy
- Very similar stars in terms of **temperature**, **gravity** and **metallicity** are needed for differential analysis
- Using dimensionality reduction techniques to find similar stars without a priori information
- Details of the similarity analysis published in
 - Martínez Fernández et al. 2025 (A&A, 704, A61)



Annual Meeting 2026

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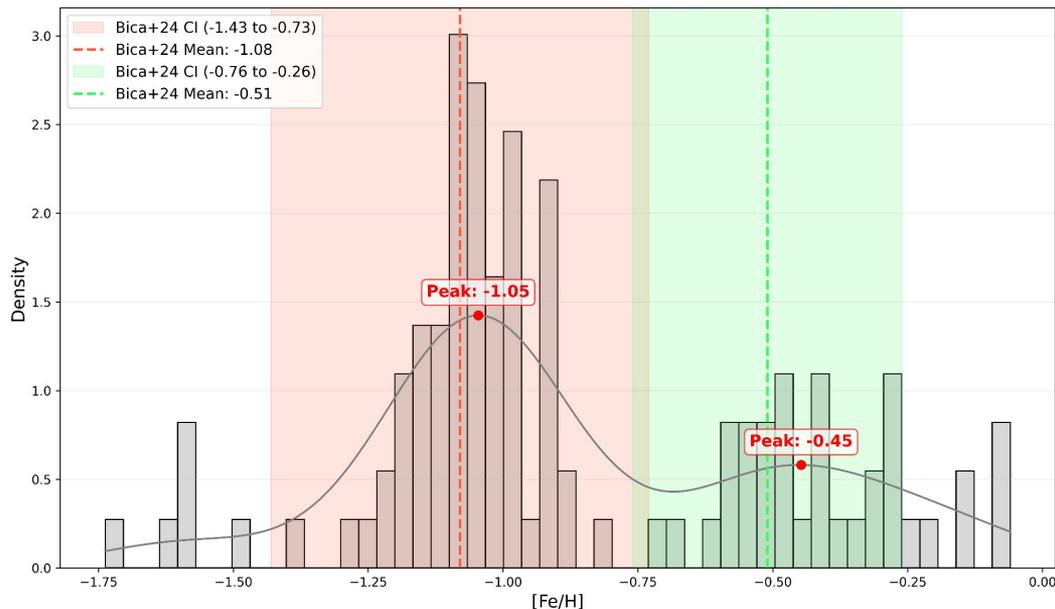


Sergen Özdemir

In collaboration with R. Smiljanic, J.E. Martínez Fernández, et al.

Bulge GCs

- CHES DR1 sample consists UVES spectra of ~8500 stars after initial filtering
- 261 of these stars are from the regions of bulge GCs
- We analyzed the membership based on their RV
- **109** member stars from **15** bulge GCs
 - Their parameters are derived with the traditional method and corrected by our bias correction
- **17** out of 109 have similar reference stars
 - Their parameters are derived by the differential analysis relative to a similar reference stars

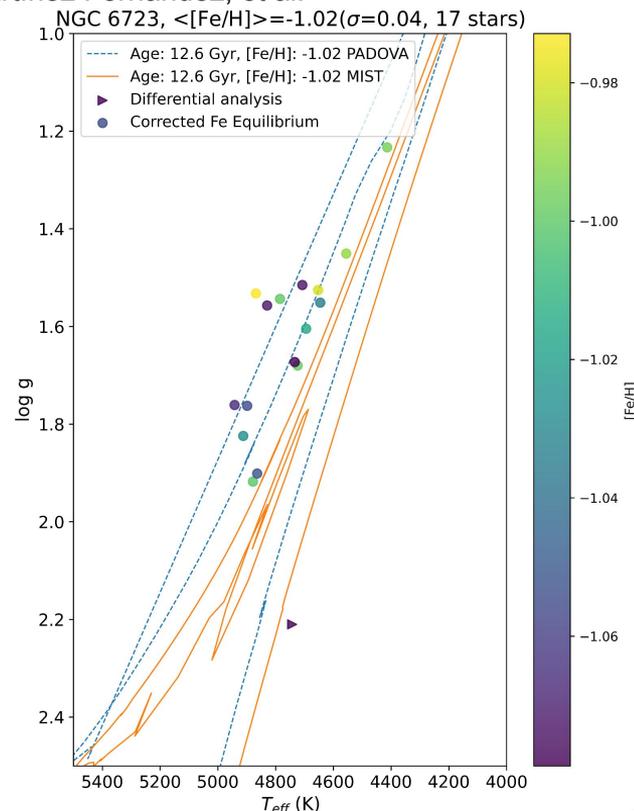


Sergen Özdemir

In collaboration with R. Smiljanic, J.E. Martínez Fernández, et al.

Bulge GCs

- In total **109** member stars from **15** bulge GCs
 - Their parameters are derived with the traditional method and corrected by our bias correction
- **17** out of 109 have similar reference stars
 - Their parameters are derived by the differential analysis relative to a similar reference stars
- We checked the consistency of our parameters with Kiel diagrams.
 - Excellent results for all clusters
- Currently computing abundances of the elements involved in multiple populations scenario
 - Mg, Al, Na, C, N, O, Li, Si, Ca





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Other Activities

- One published refereed paper as the **first-author** (A&A, 2025, 699, A208)
- One published refereed paper as a **co-author** (A&A, 2025, 704, A61)
- Two submitted proceedings papers as the first-author
- One published and one submitted proceedings papers as the second-author
- Created a catalog for the very metal poor stars ($[Fe/H] < -2.0$) that have spectra in the UVES Archive
- Participation in a workshop about spectroscopic data analysis
- Supervised a summer student in the CAMK summer student program
- Talk in the Annual PhD Seminar at CAMK
- One journal club talk