

Spectroscopic abundance analysis of the 100 stars from the CHEPS sample

Oleksiy Ivanyuk¹, Yakiv Pavlenko^{1,2}, James Jenkins^{2,3},
Hugh Jones²

¹Main Astronomical Observatory of NASU

²University of Herthfordshire

³Camino El Observatorio # 1515, Chile

Acknowledgements

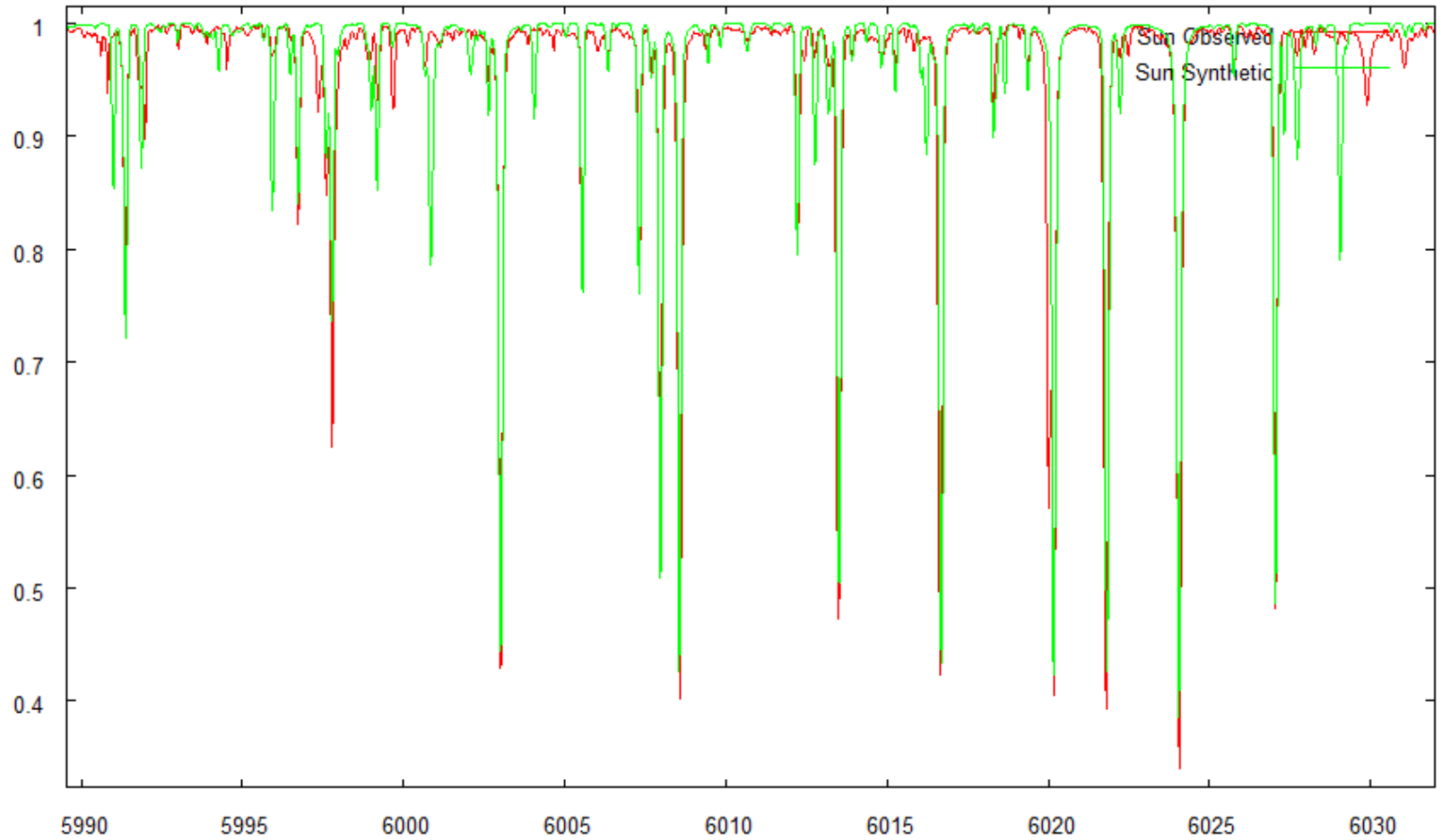
- MPE Local Organizing Committee;
- Hertfordshire team: James Jenkins, Hugh Jones, David Pinfield;
- Kyiv team: Yakiv Pavlenko, Max Kuznetsov;

CHEPS Sample

Goals of the Calan-Hertfordshire Extrasolar Planet Search:

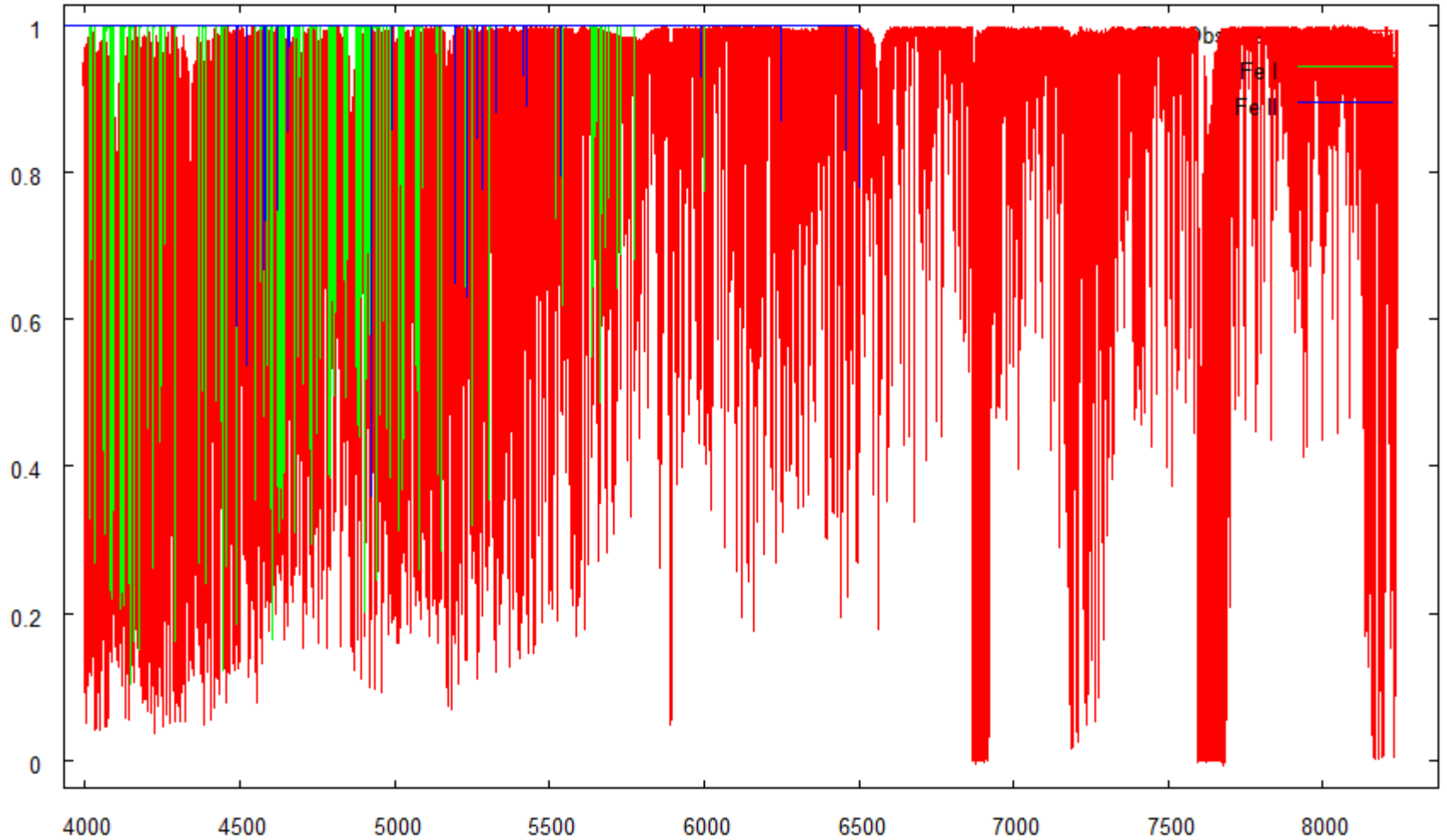
- Monitoring of metal-rich stars in attempt to find short periodic planets of a different masses;
- Acquiring of a statistics of planets around such stars;
- Searching for planetary transits around bright targets in the southern hemisphere

solar spectra sample

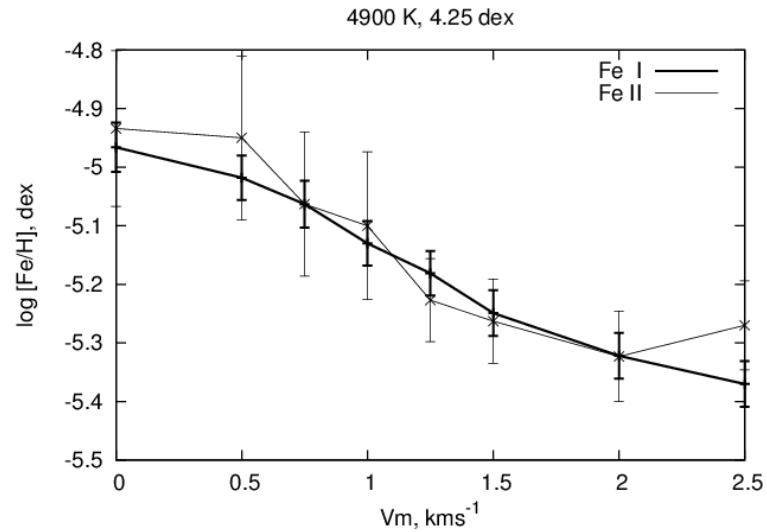
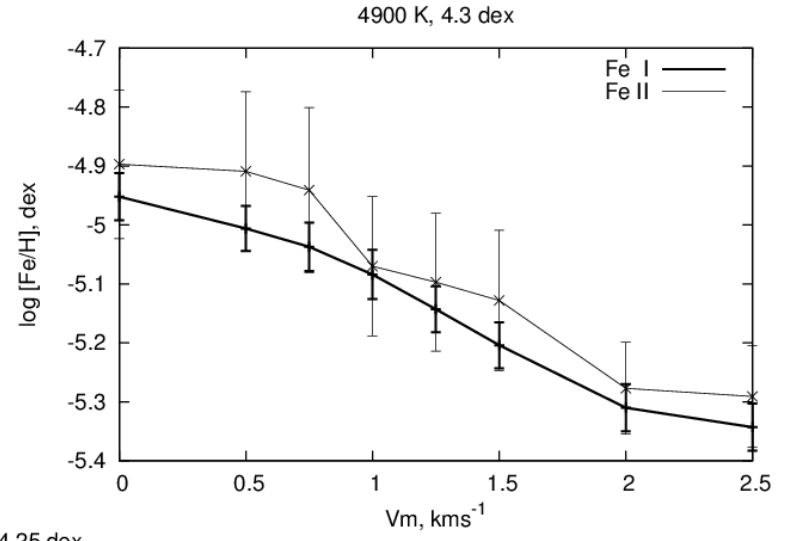
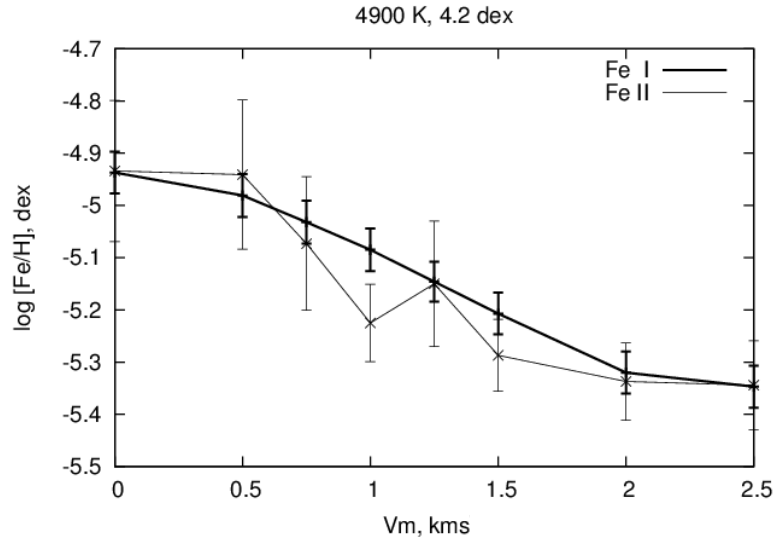


iron line lists

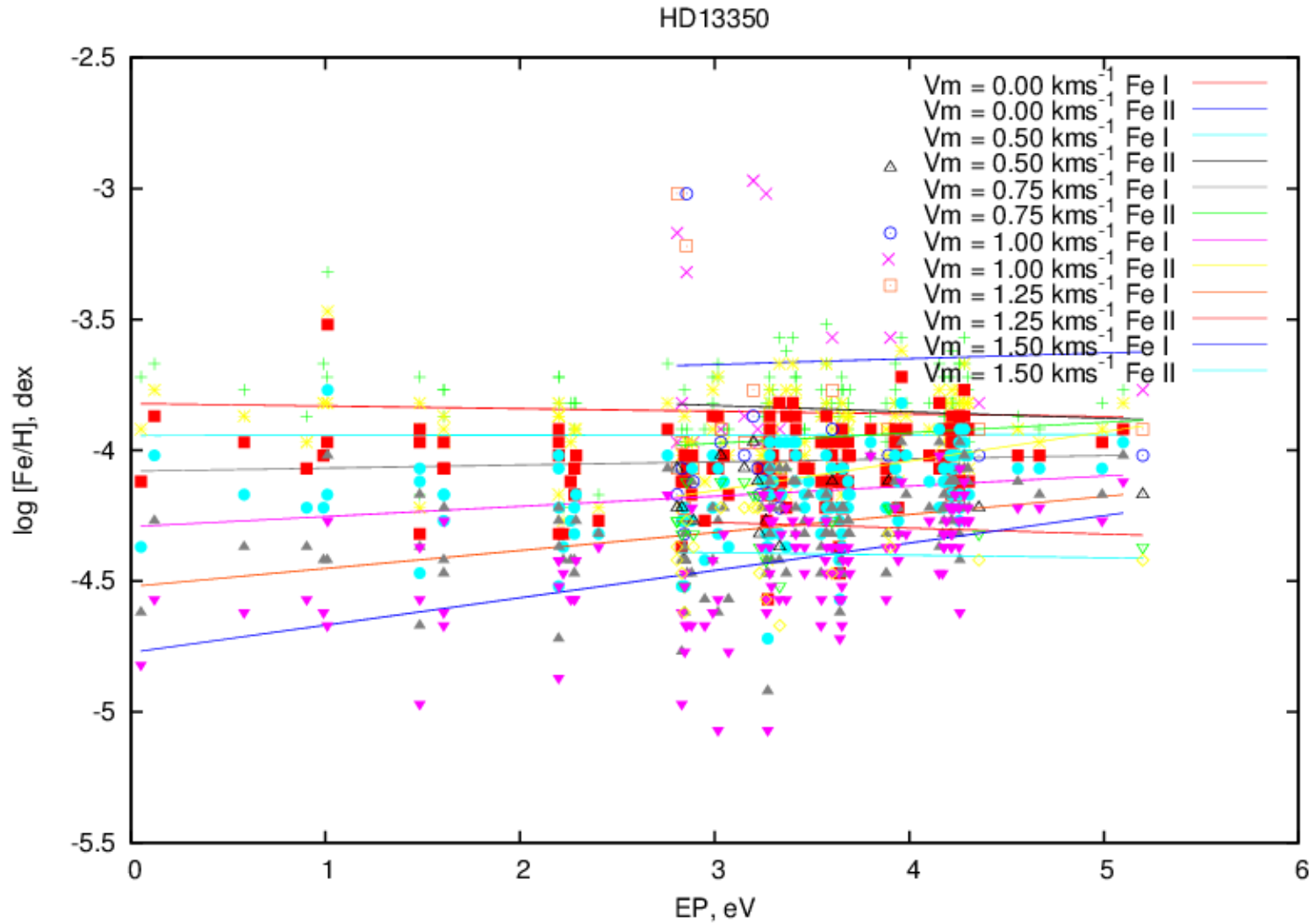
130 Fe I lines / 20 Fe II lines



temperature and surface gravity



microturbulense velocity



initial and spectroscopic metallicities

Name	Initial M/H	Our M/H
HD101197	0.19	0.07±0.16
HD101348	0.23	0.36±0.17
HD10188	0.30	0.40±0.18
HD102196	0.13	0.15±0.13
HD102361	0.12	-0.28±0.11
HD10278	0.15	0.14±0.13
HD105750	0.20	0.02±0.18
HD106937	0.18	0.36±0.21
HD107181	0.26	0.42±0.19
HD108953	0.29	0.33±0.18
HD126535	0.13	0.16±0.16
HD127423	0.13	0.02±0.10
HD128356	-0.78	-0.18±0.09
HD13147	0.16	0.05±0.18
HD13350	0.34	0.52±0.16
HD143120	0.23	0.38±0.20
HD143361	0.06	0.25±0.18
HD144550	0.22	0.27±0.18
HD144848	0.28	0.24±0.16
HD144899	0.36	0.29±0.17
HD147873	0.10	-0.17±0.07
HD149189	0.27	0.27±0.16

Conclusions

- Completed uniform analysis of the initial CHEPS sample consisting of the 100 metal-rich stars;
- Determined metallicities are in a good agreement with the abundances of the alpha-peak elements, except the NLTE-sensitive (Maria Bergemann 2011) (V. Zh. Adibekyan 2012);
- Constrained effective temperature, surface gravity, projected rotational velocity and microturbulence values.

Thank you