The GALAH survey
Update on spectroscpic analysis pipeline

WG4 - Sven Buder, contributions by Anish Amarsi, Jane Lin, Karin Lind, Thomas Nordlander

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1 Important changes after GALAH DR2

1.1 Spectroscopic synthesis pipeline available for members

The pectroscopic synthesis pipeline is now open for all GALAH members to use via

`https://galah-survey.org/wiki/galah-spectrum-synthesis-pipeline`

1.2 Documents in preparation of GALAH DR3 available on github

Initial documents for the preparation of GALAH DR3 have been uploaded on a private (hidden) repository on

`https://github.com/svenbuder/GALAH_DR3`

If you want to access to these documents, please email Sven to be added as a collaborator (you need a github account for this).

1.3 Updates regarding SME

- Pipeline finally and successfully converted to the recent SME version 536 (if interested, ask WG4 regarding the major changes). Thanks to Thomas Nordlander!

- Improved continuum selection and normalisation with SME. Thanks to Karin Lind!

- Non-LTE now also for H (in addition to Li, O, Na, Mg, Al, Si, and Fe). Thanks to Anish Amarsi!

1.4 Updates regarding use of *Gaia* DR2 and asterseismic data

- Parallaxes now available for almost all stars observed by GALAH and a vast majority of them are very good, see Figure 1

- The asteroseismic information provided by Sanjib Sharma and others have been used to run a pipeline version which constrains $\log g$ as a function of T_{eff} and ν_{max}, which consists of up to 3175 stars (including bad S/N, bad $\nu_t extmax$ values, and bad reductions).
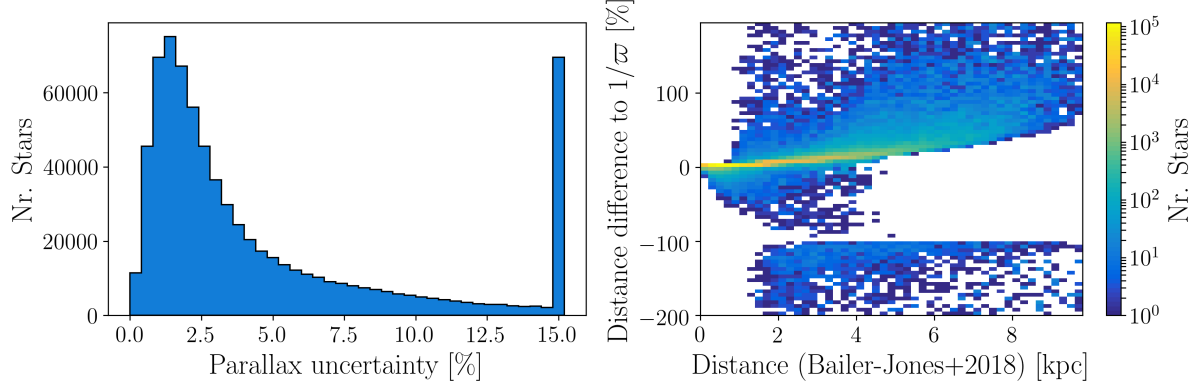
Figure 1: Overview of parallaxes/distances of the stars observed by GALAH

- For the interim mass and age estimation, we have switched to the use of Parsec isochrones, which include core helium burning stars (in contrary to Dartmouth isochrones) and alpha-enhancement (in contrary to MIST). Thanks to Jane Lin!
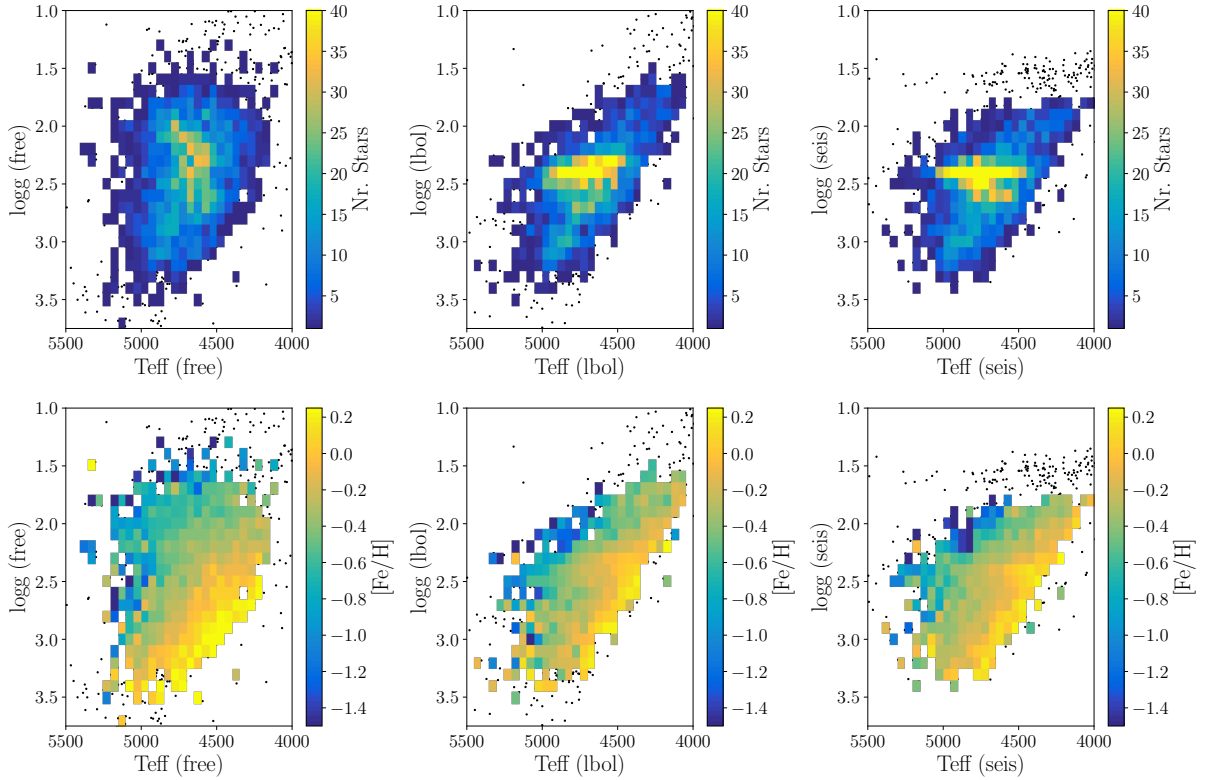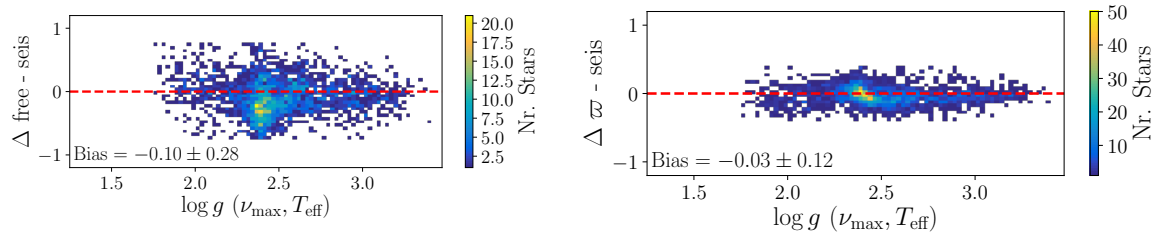
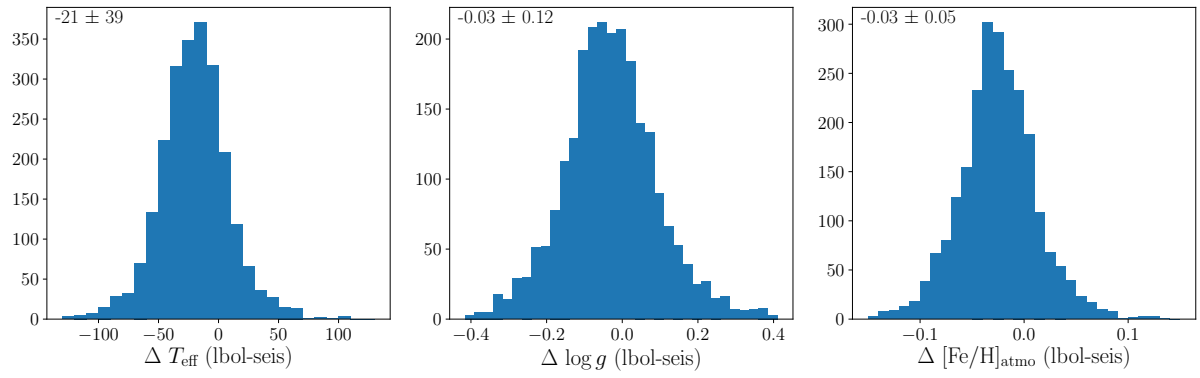# 2 Resulting effects

2.1

Figure 2: test

Figure 3: test

Figure 4: test