

Confirming atmospheric parameters of peculiar s-/r-process metal-poor stars with VOSA

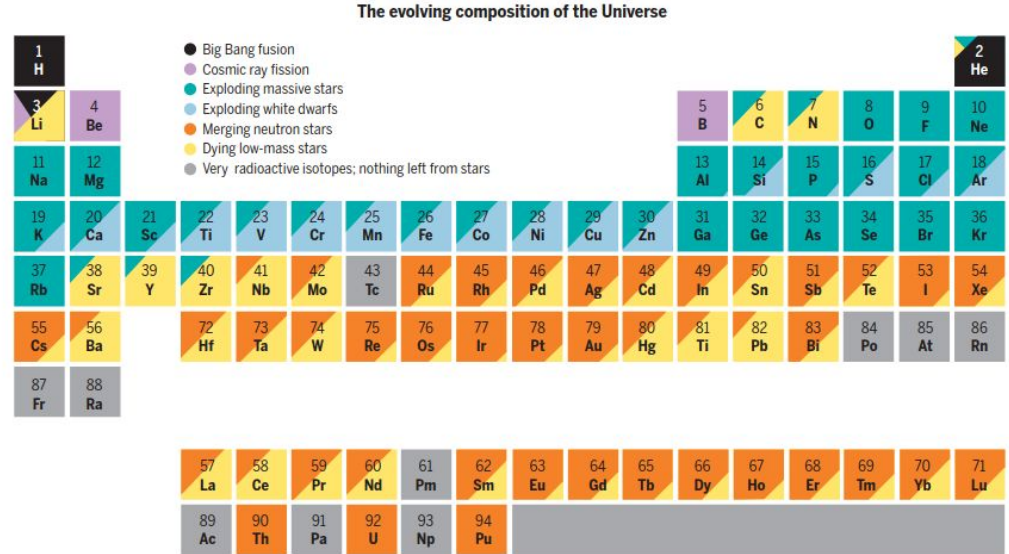
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S-process and R-process

- Nucleosynthetic phenomena
- s- stands for slow and r- for rapid in relation to the β -decay
- Observational Origins

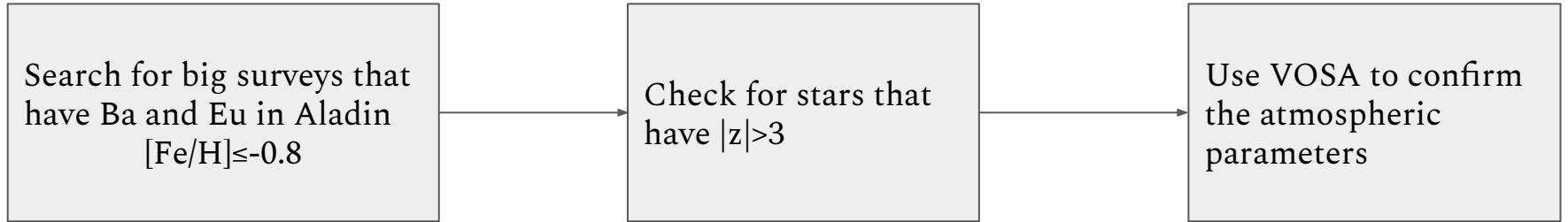


Johnson, J. A. Science 363, 474–478 (2019)

Our Goal:

Confirm the atmospheric parameters of stars with peculiar abundances of s-/r-process elements

Flux of work



Surveys

Inspecting the big surveys using Aladin

$[\text{Fe}/\text{H}] \leq -0.8$

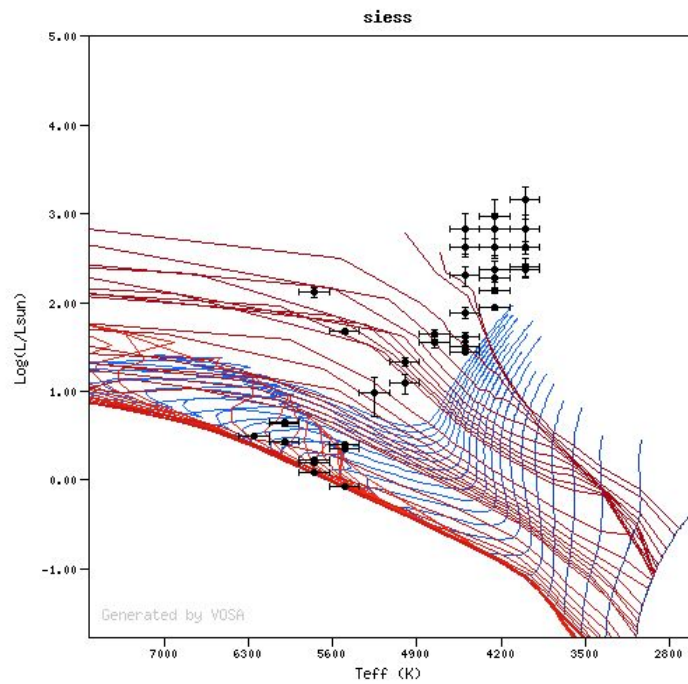
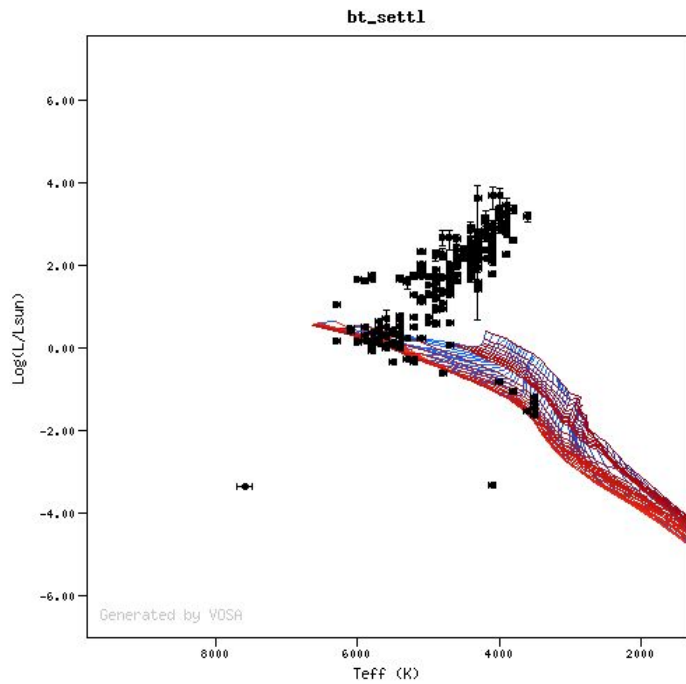
Gaia-ESO

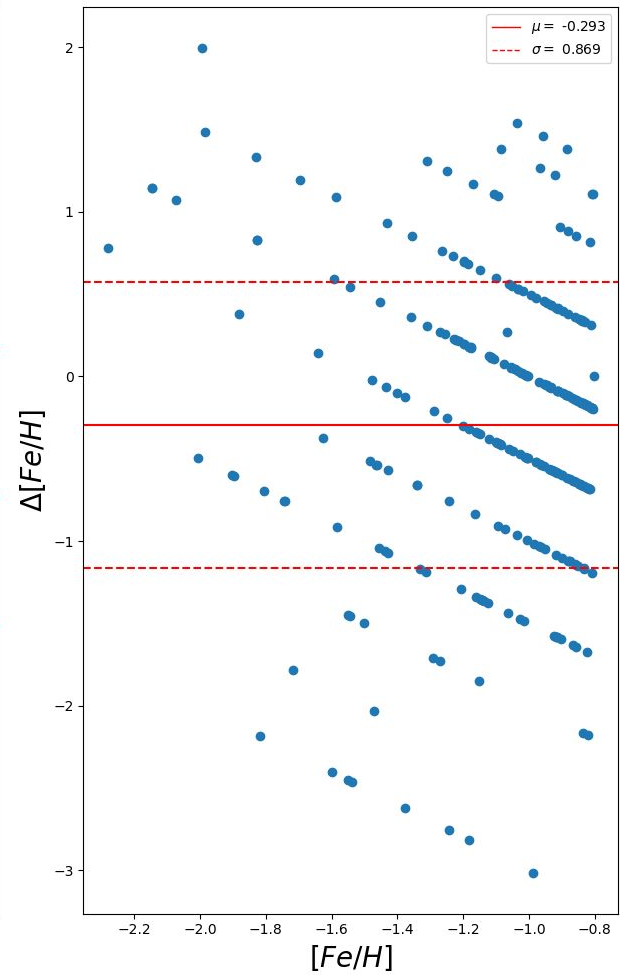
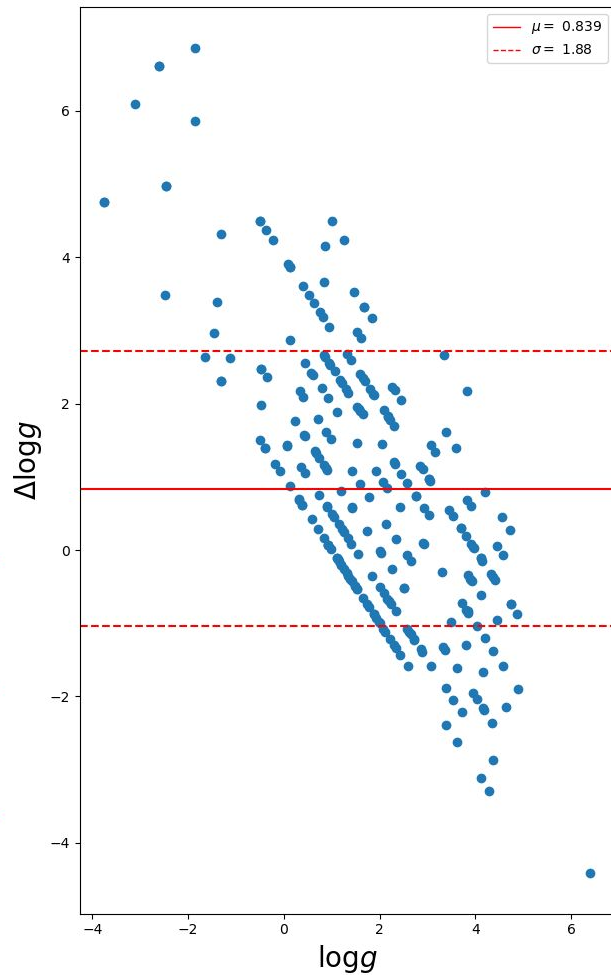
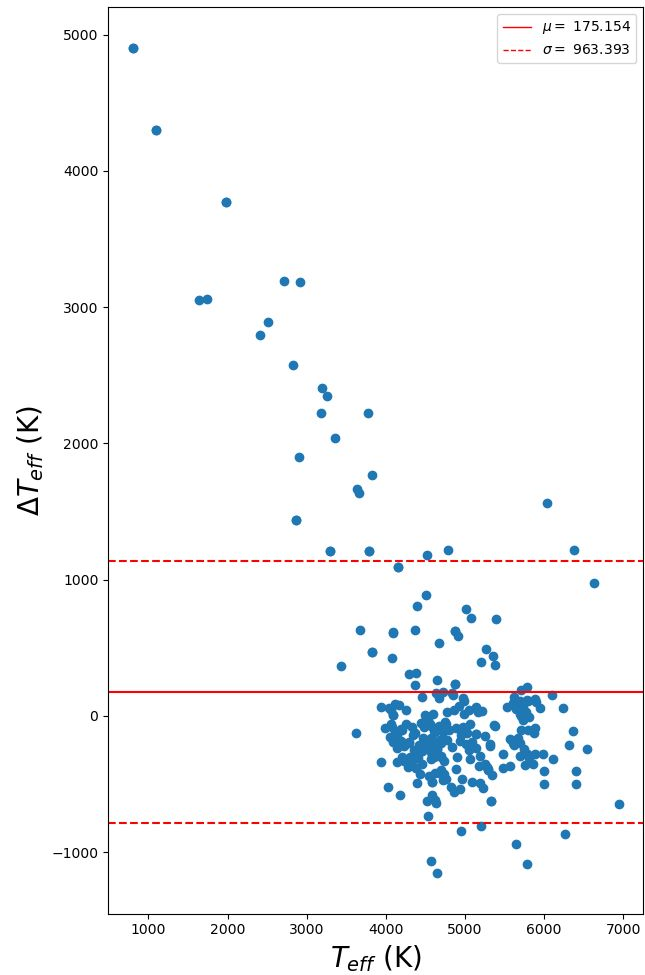
- $[\text{Eu}/\text{Fe}]$: 3 stars
- GALAH DR2
 - $[\text{Ba}/\text{Fe}]$: 124 stars
 - $[\text{Eu}/\text{Fe}]$: 148 stars

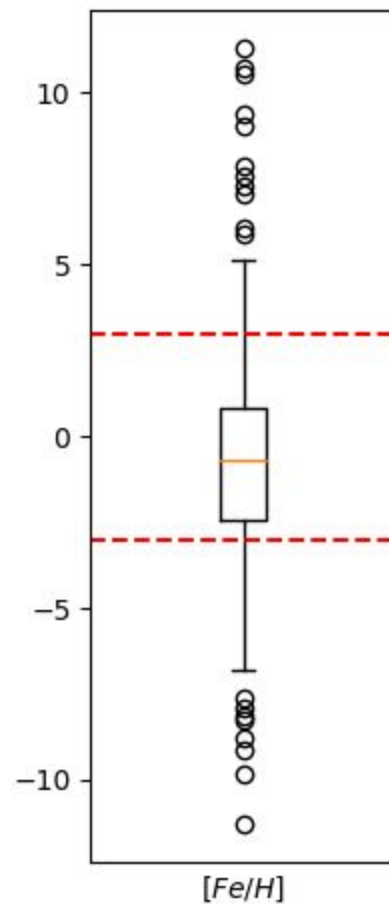
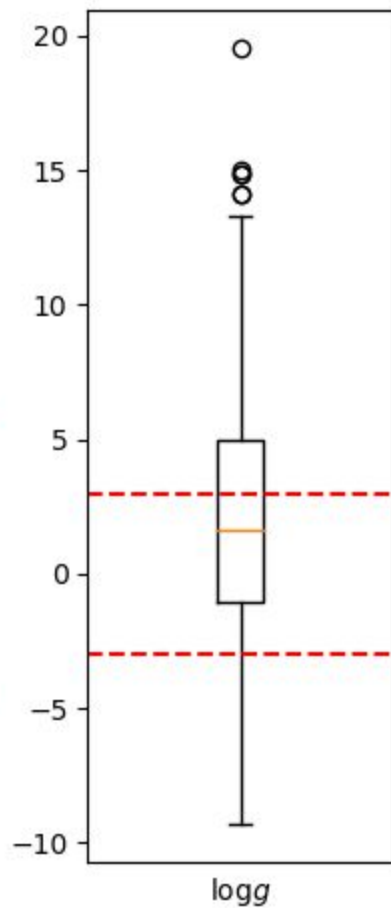
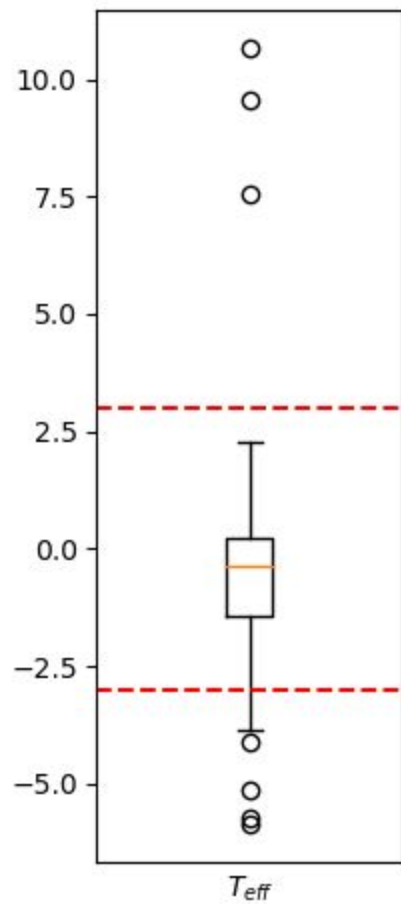
VOSA using Kurucz, Coelho and BT-Settl : 263 stars



Results







Conclusion & Future Work

- Better precision and accuracy are needed
- These peculiar stars can have a different origins
 - Be further studied by its kinematics and orbital parameters
- VOSA can be a tool to check confiability of parameters for these stars
- For these two surveys:
 - Gaia-ESO : redo when it has an official data-release
 - GALAH : redo when DR3 is available in Vizier