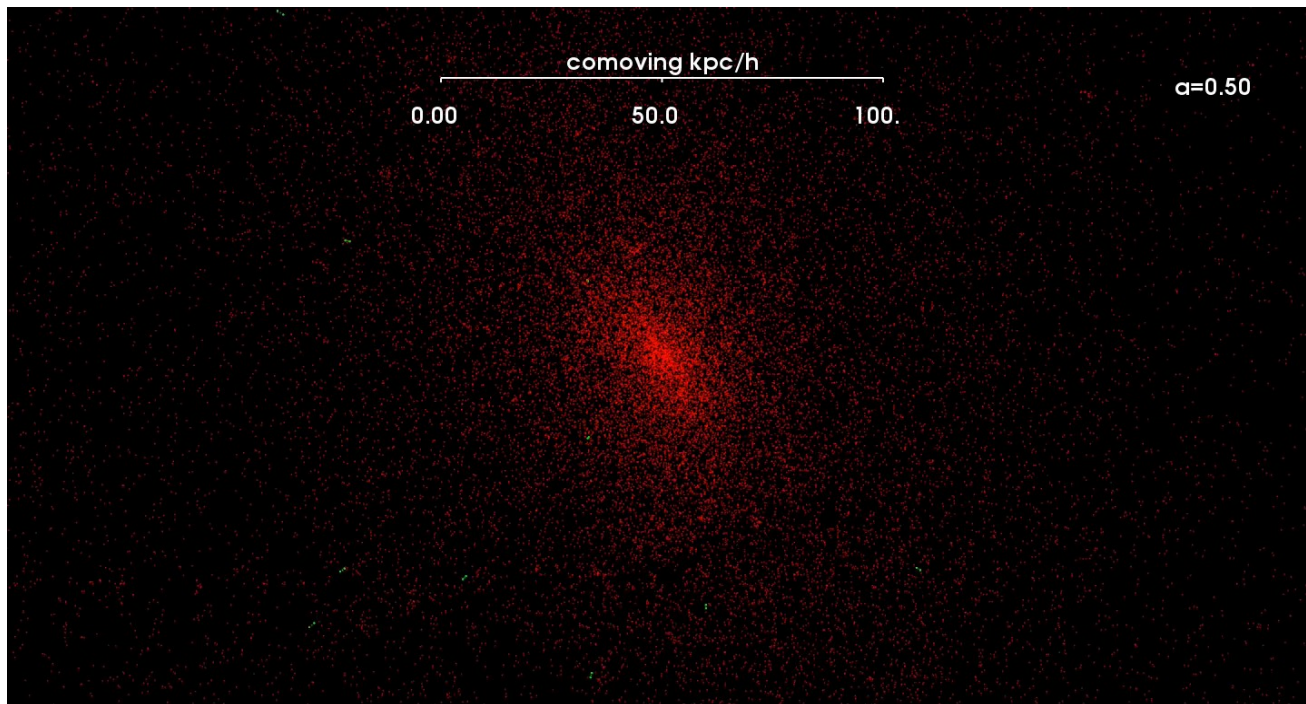


Abundance Analysis of the Willka Yaku and Turranburra Stellar Streams

Kaitlin Webber

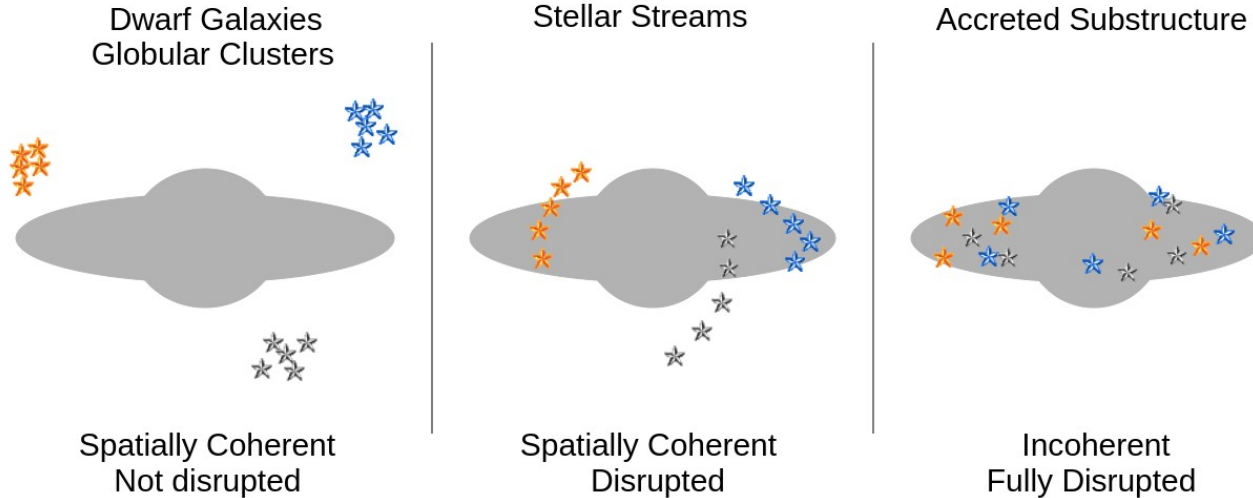


What is a stellar stream?

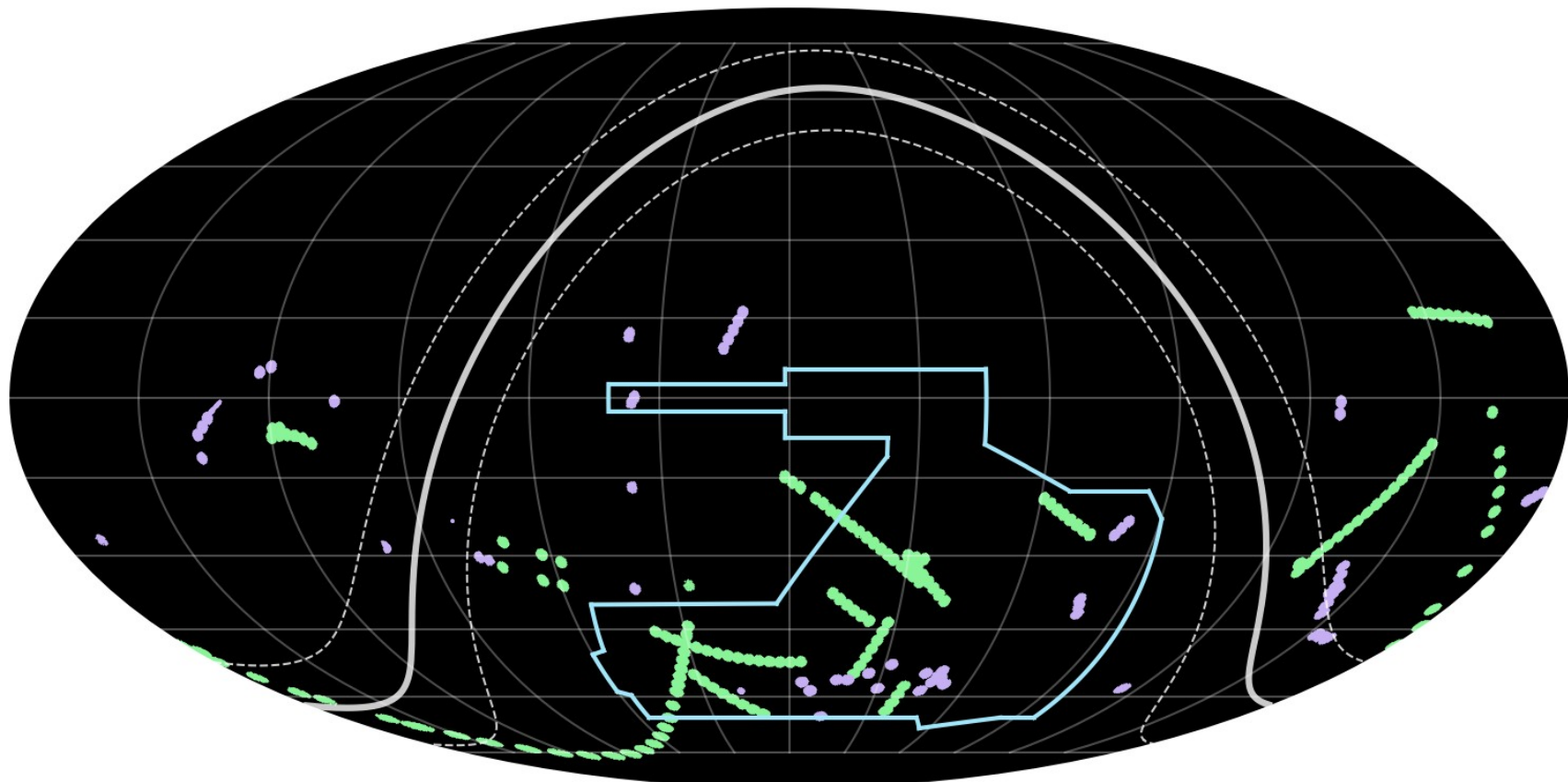


Denis Erkal, S⁵ Collaboration

What is a stellar stream?

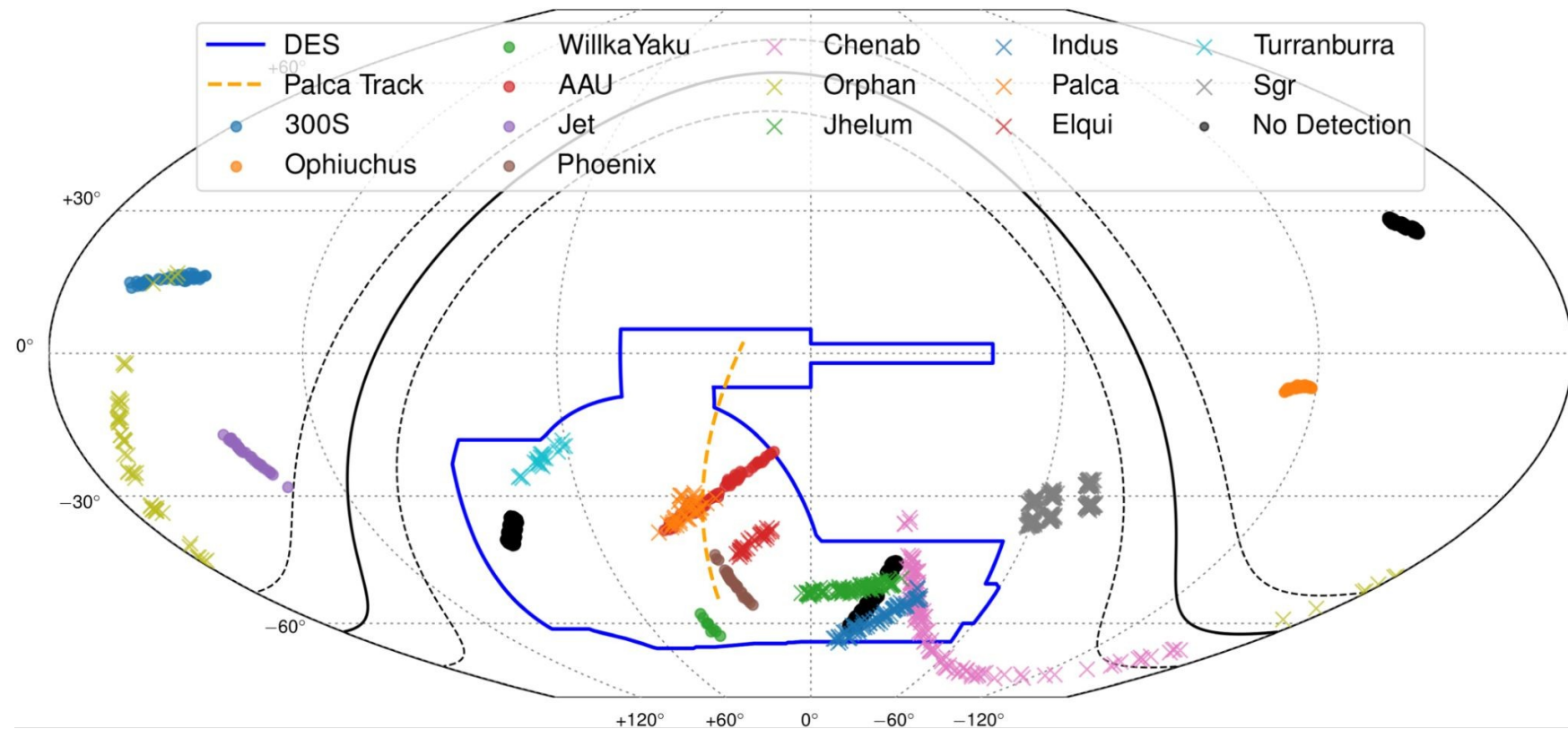


Southern Stellar Stream Spectroscopic Survey (S⁵)

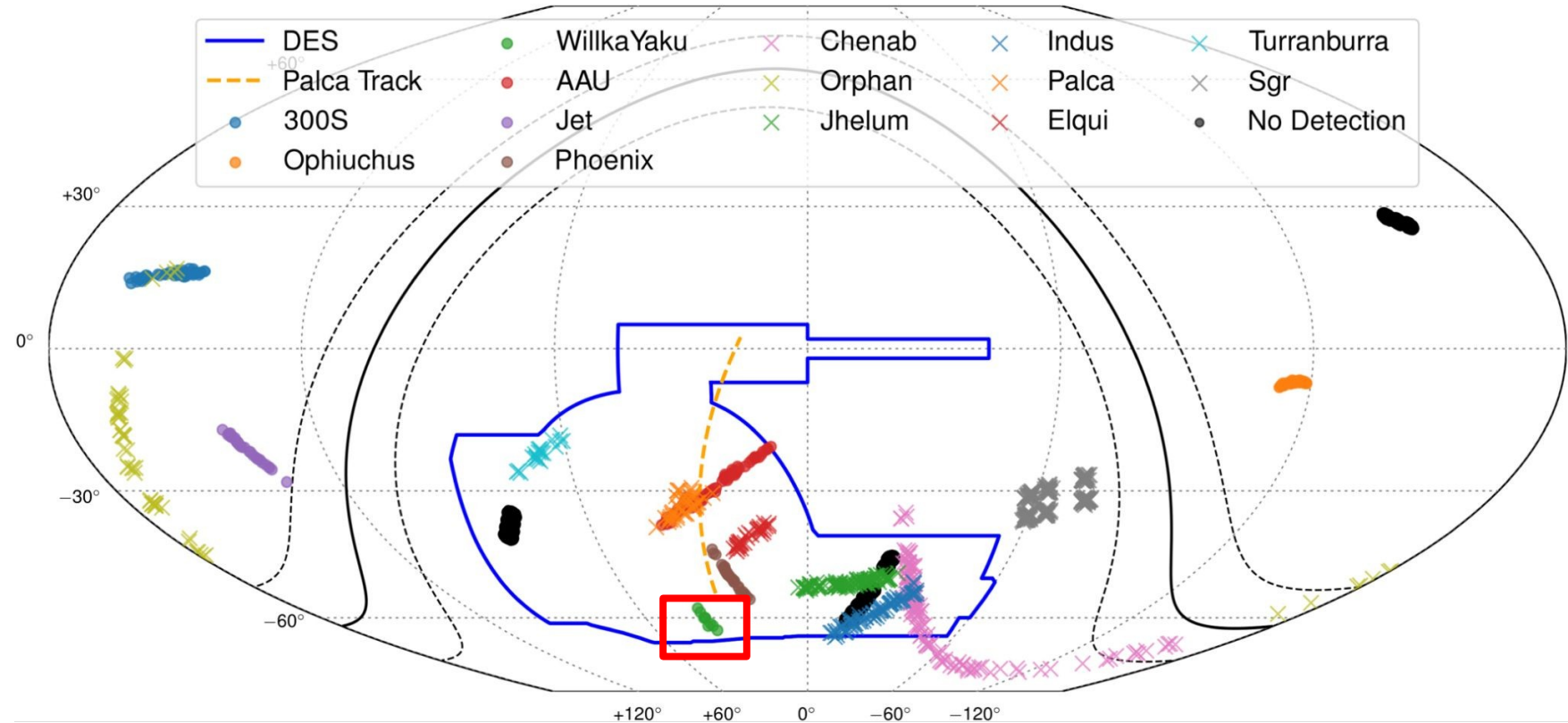


S⁵ Collaboration

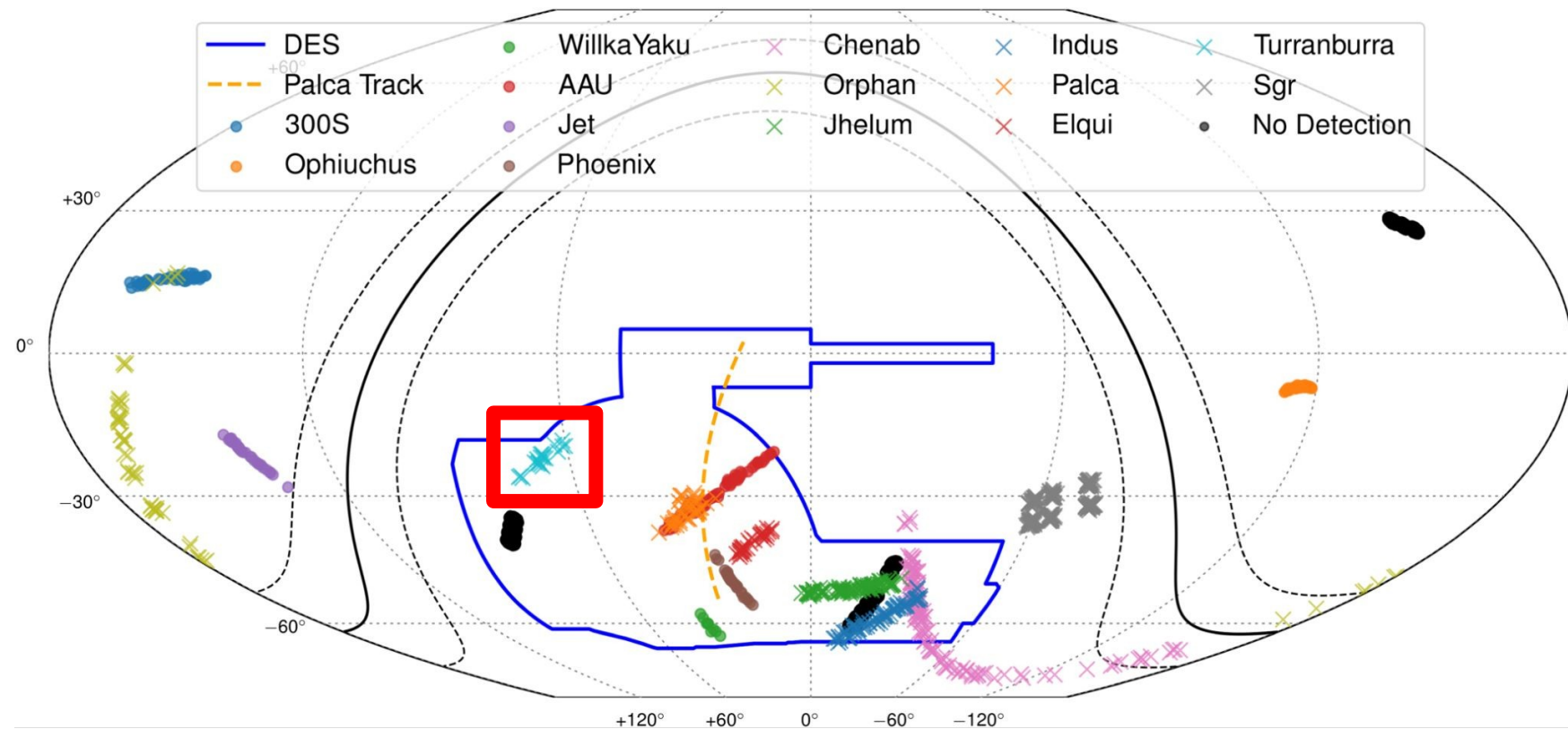
Willka Yaku and Turránburra



Willka Yaku and Turránburra



Willka Yaku and Turranburra



Globular Cluster vs Dwarf Galaxy

Globular Cluster

- Low to no velocity dispersion
- Low to no metallicity dispersion

Dwarf Galaxy

- Higher velocity dispersion
- Higher metallicity dispersion

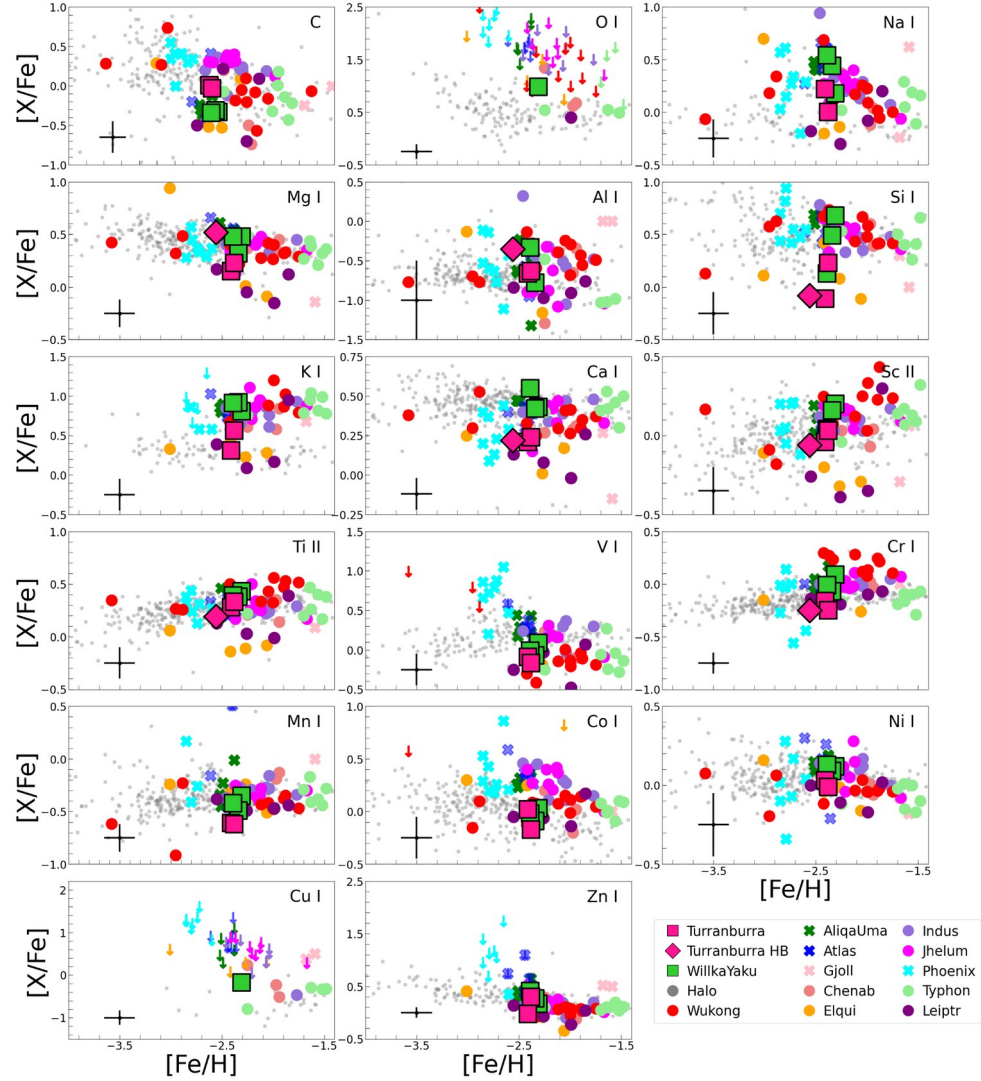
Willka Yaku and Turranburra

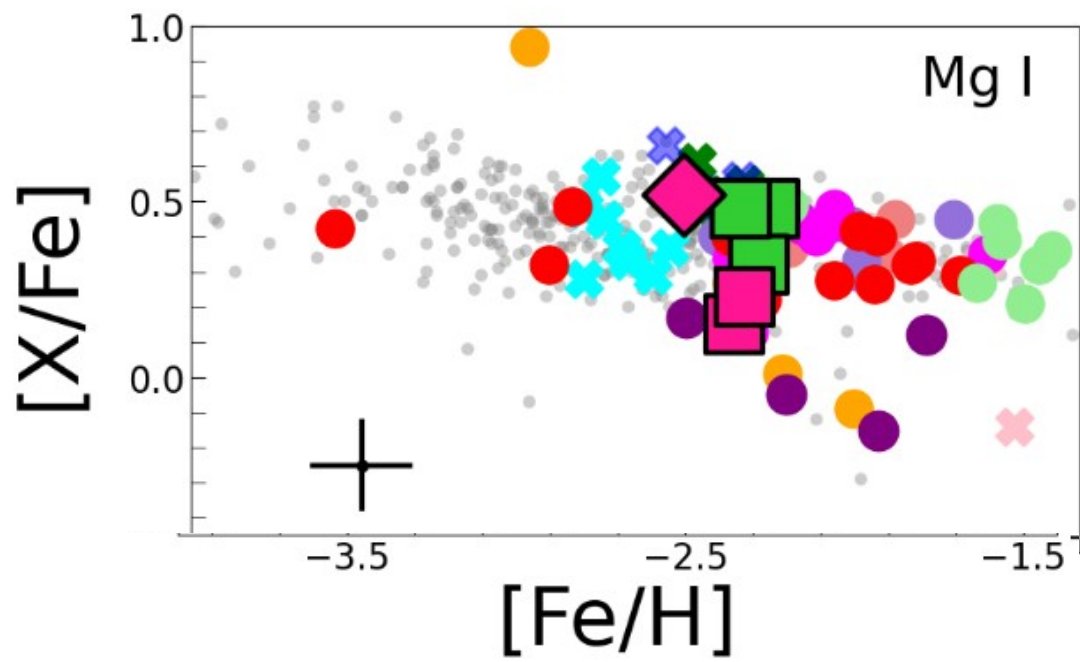
Willka Yaku

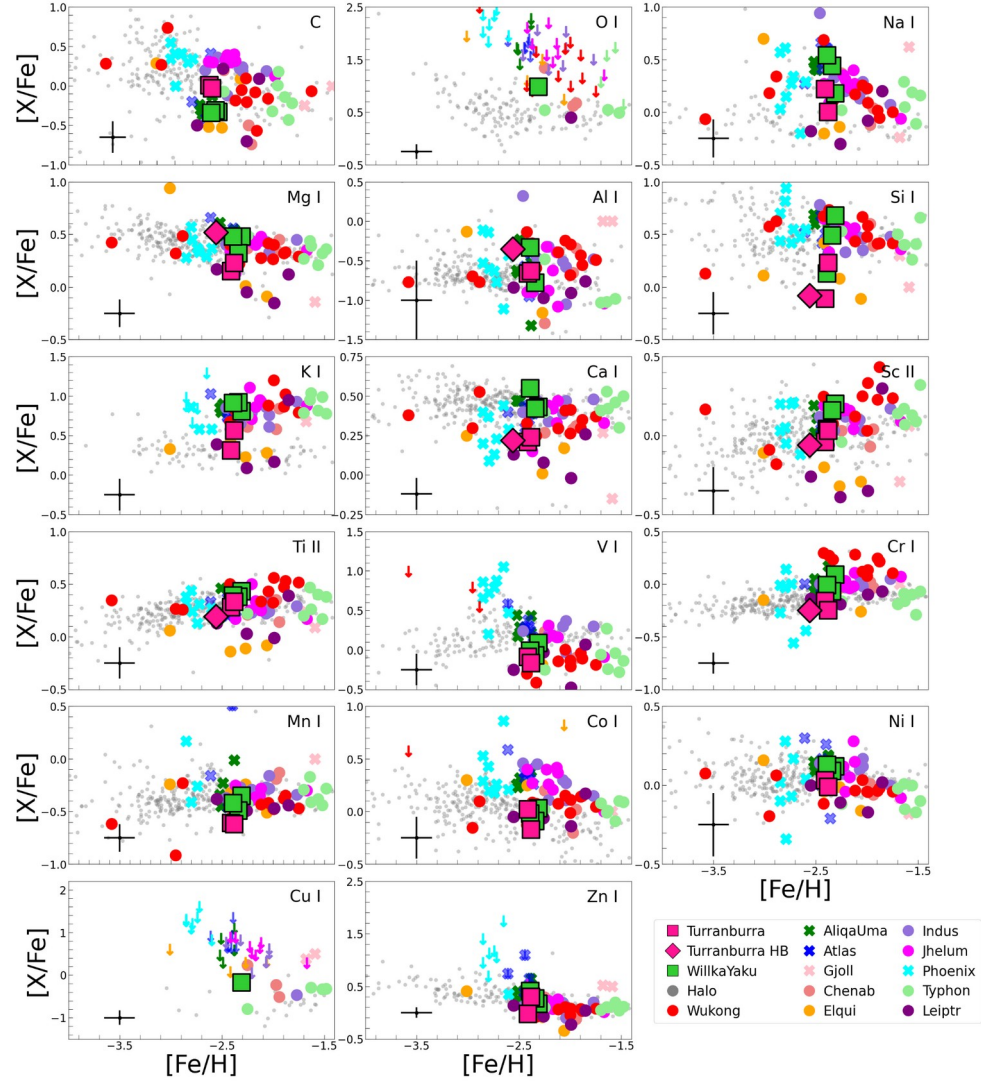
- Low to no velocity dispersion ($\sigma_{\text{vel}} = 0.4$ km/s)
- Low to no metallicity dispersion ($\sigma_{[\text{Fe}/\text{H}]} = 0.04$)

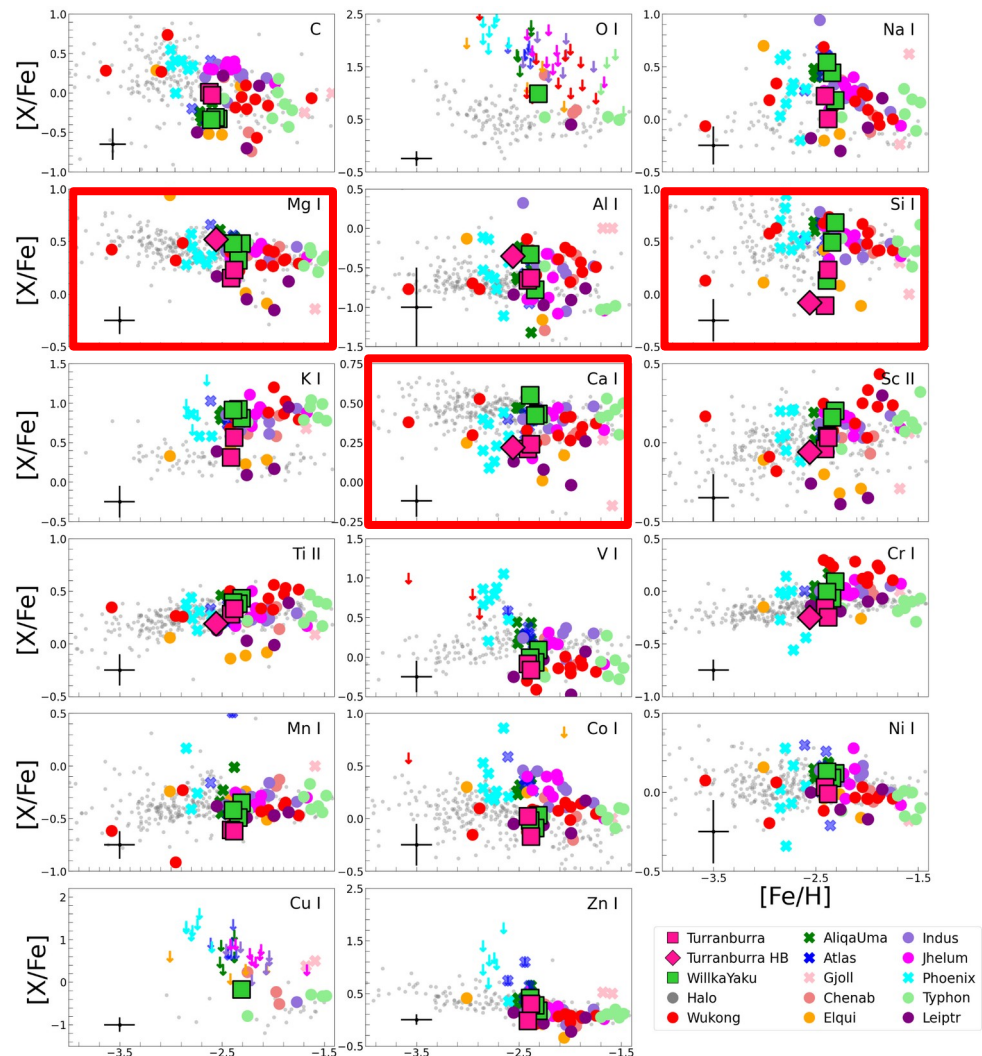
Turranburra

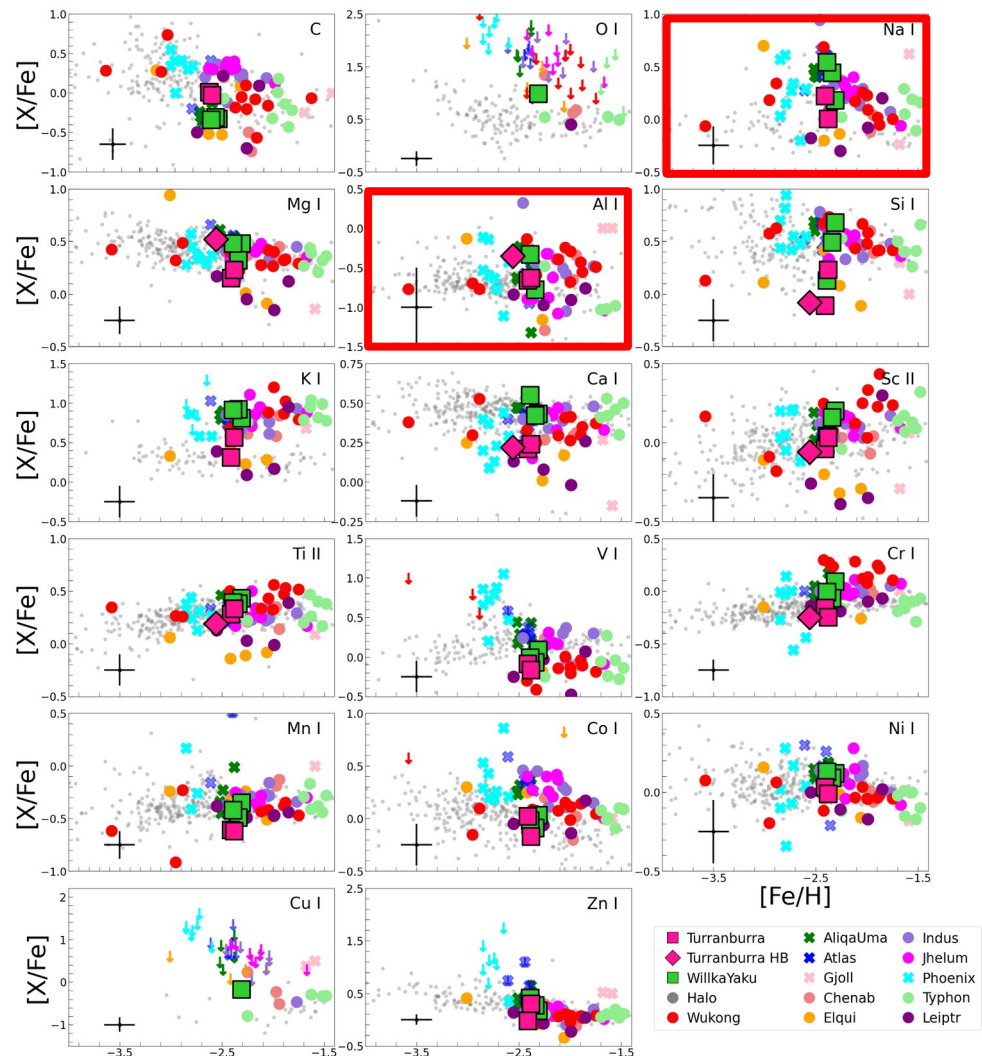
- Higher velocity dispersion ($\sigma_{\text{vel}} = 19.7$ km/s)
- Higher metallicity dispersion ($\sigma_{[\text{Fe}/\text{H}]} = 0.39$)

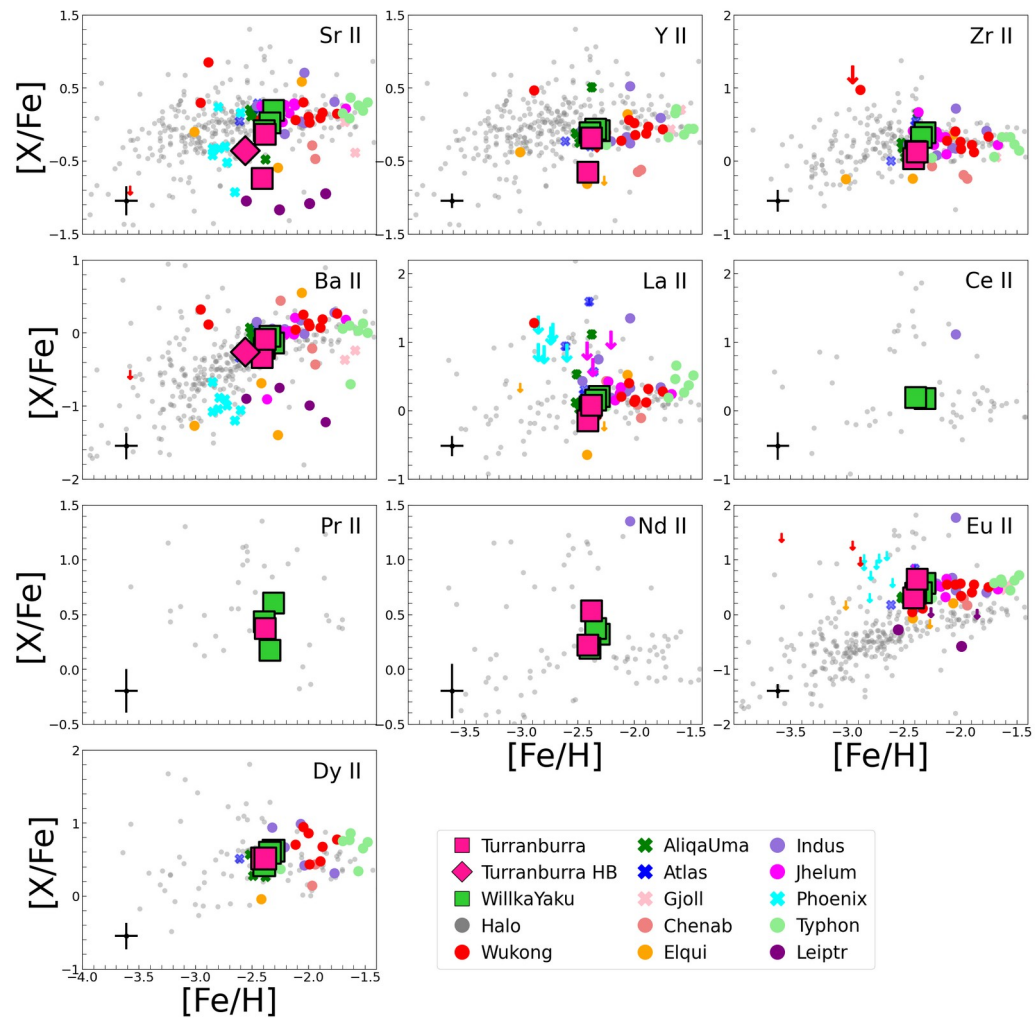


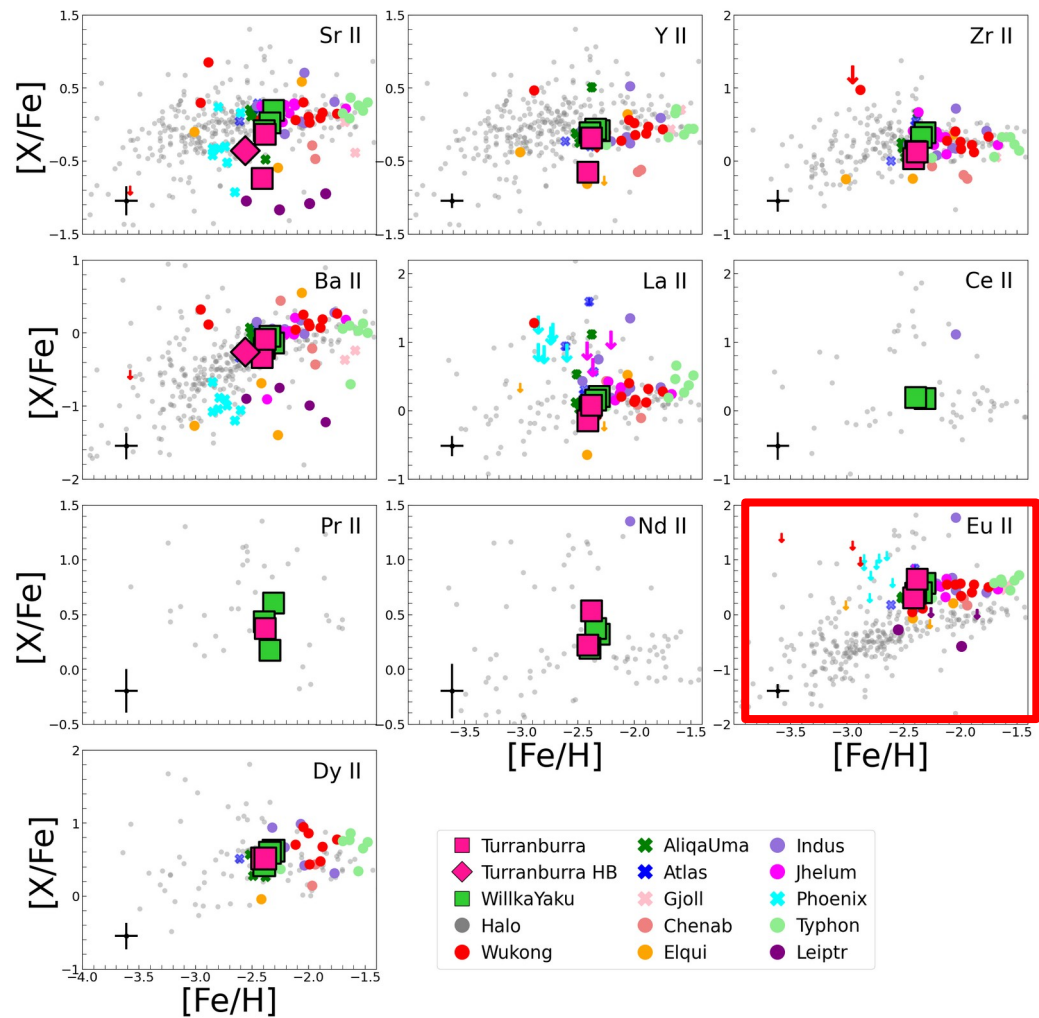


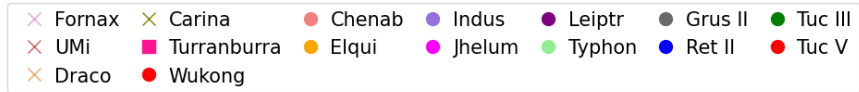
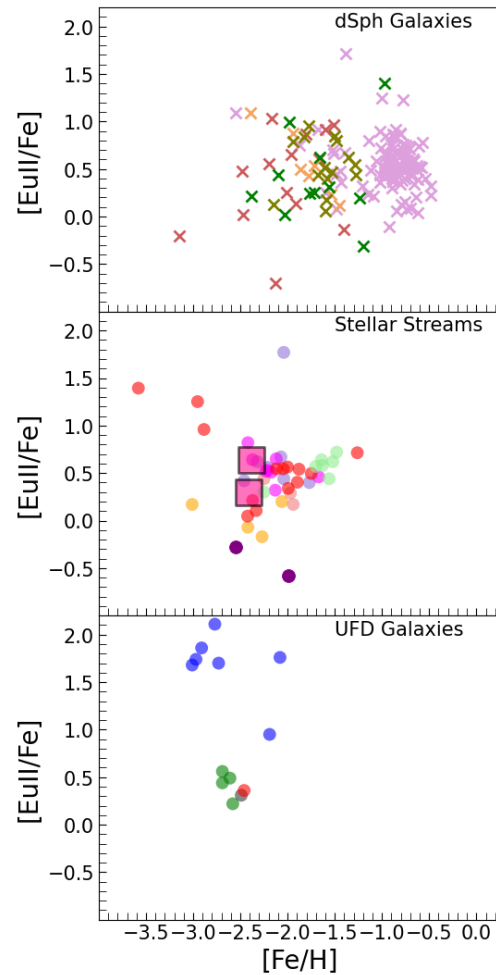












Conclusions

- Willka Yaku's progenitor was a globular cluster
- Turranburra's progenitor was a dwarf galaxy, shows signatures of low mass progenitor
- More observations needed