Follow-up of bright metal-poor star candidates discovered by narrow-band survey

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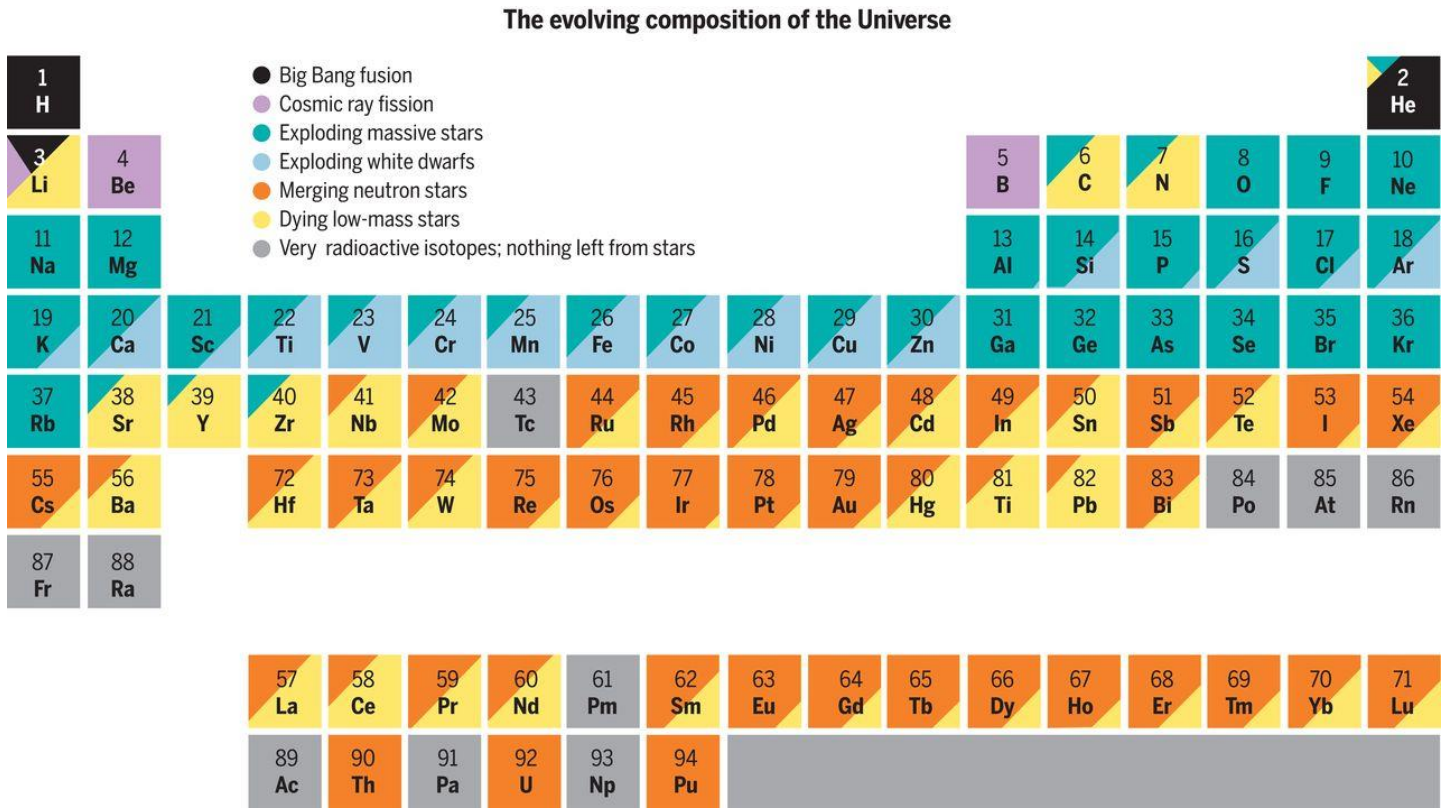
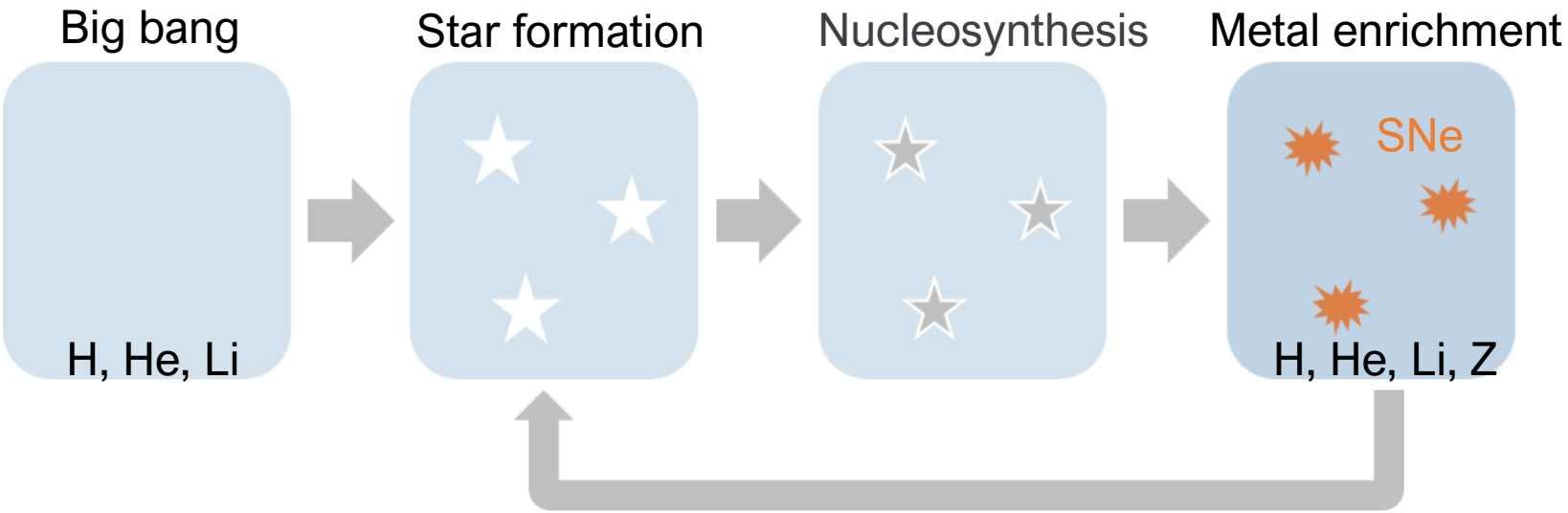
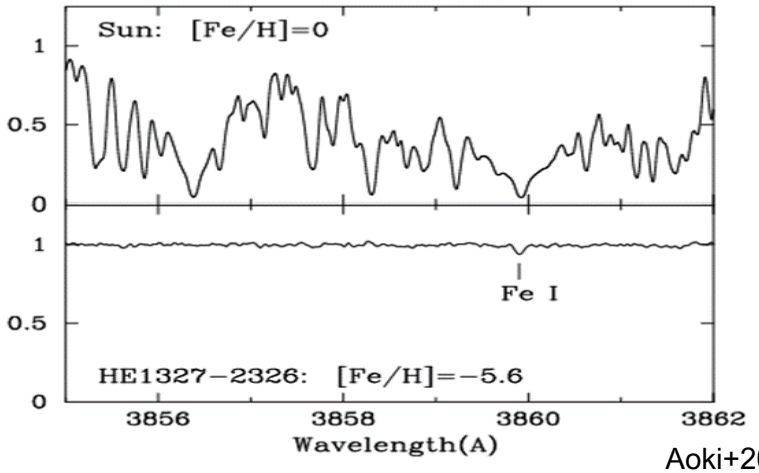


Metal-poor star

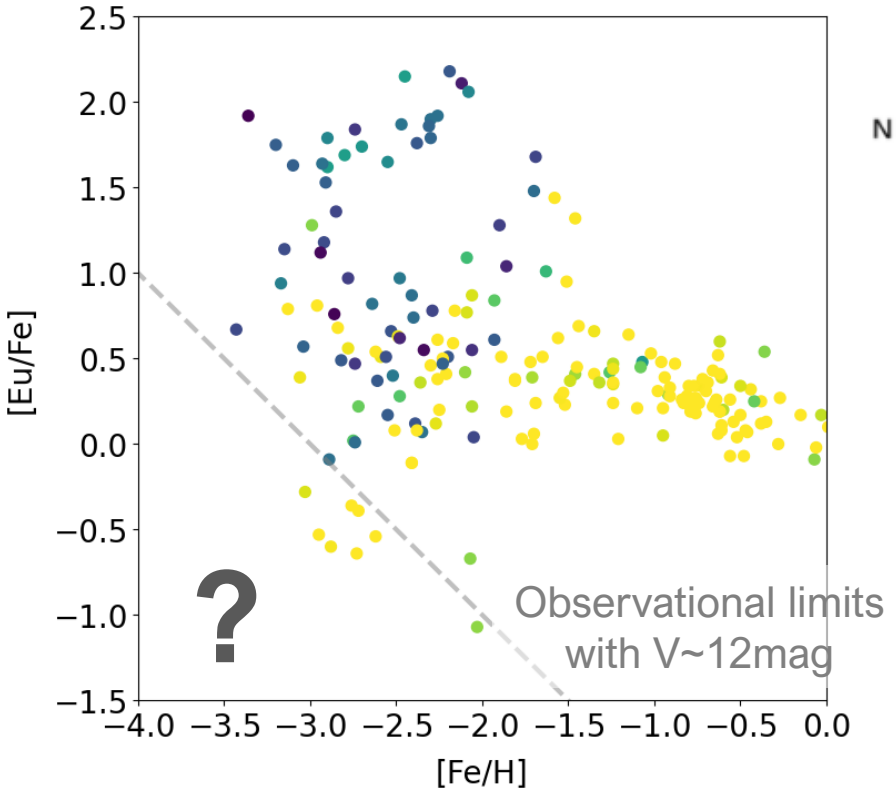


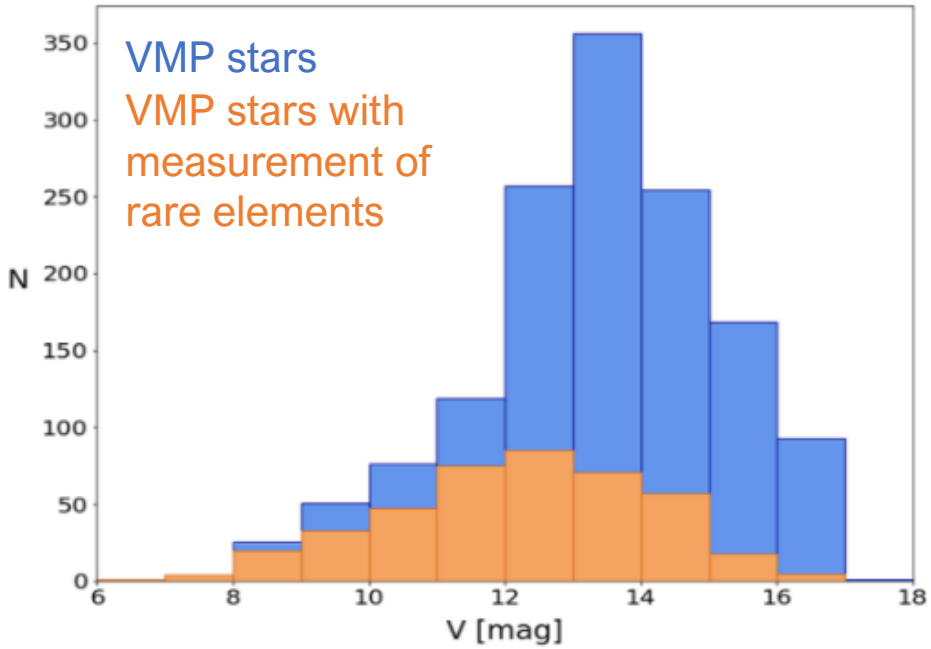
Metal-poor stars are low metallicity stars born in the early Universe, and they have information on the elemental composition at the time of their formation in their atmosphere.



Importance of bright metal-poor star

SAGA database (Suda+2017);
http://sagadatabase.jp/





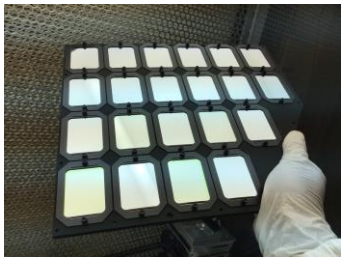
Bright metal-poor stars allow the measurement of rare elements at low metallicity.

We need to search for bright metal-poor stars.

Bright very metal-poor star survey

Narrow-band photometry

- Kiso 1.05m / Tomo-e Gozen
- Photometry using 2 narrow-band filters covered 395nm (CaHK) and 433nm (CH)

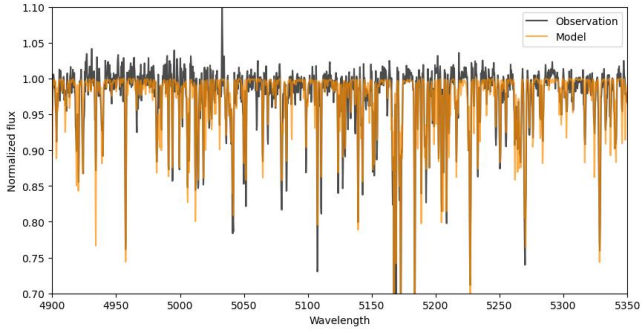


http://www.ioa.s.u-tokyo.ac.jp/kisohp/

Pick up bright VMP candidates with [Fe/H] < -2

Medium-resolution spectroscopy

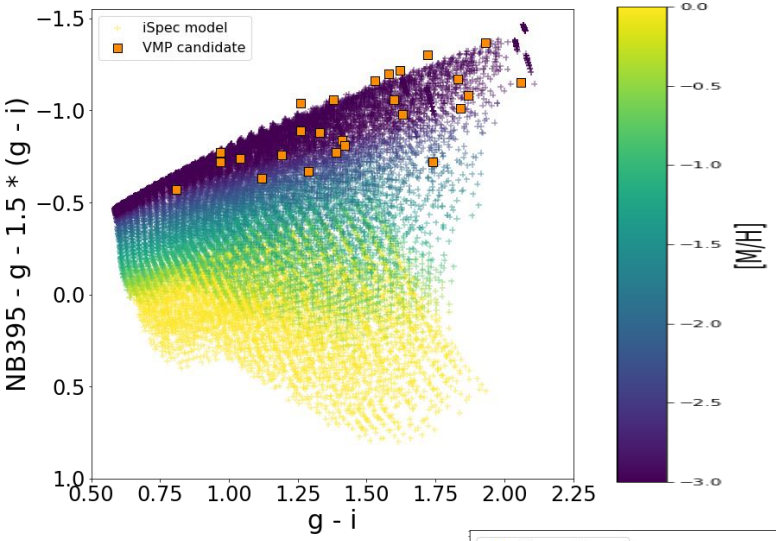
- Nayuta 2 m / MALLS
- R ~ 7,500
- Metallicity determination by fitting with the model spectra

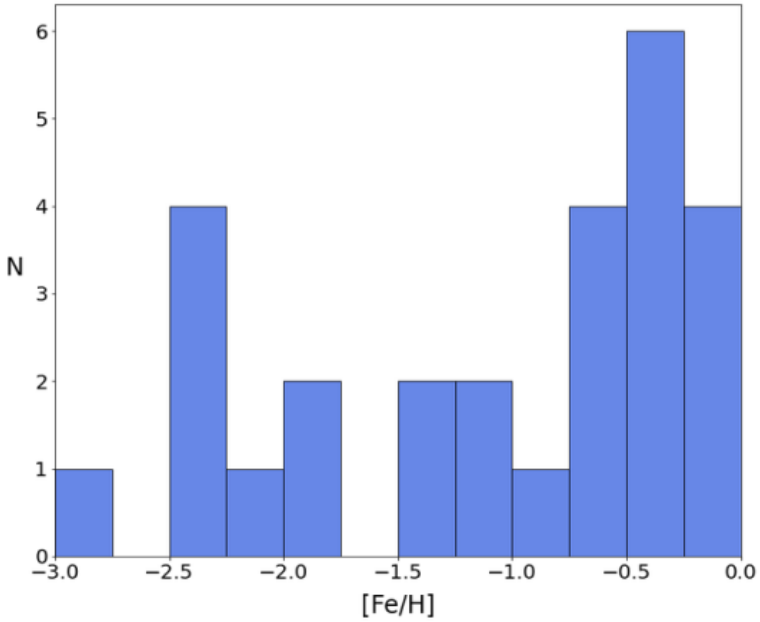


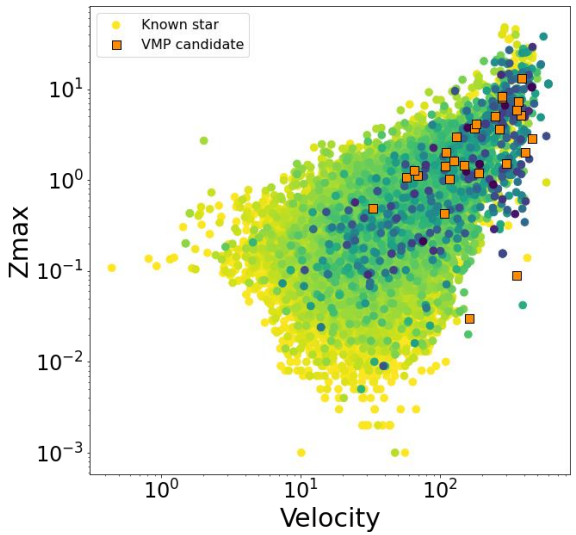
http://www.nhao.jp/

VMP candidate selection & Result

We select VMP star candidates
with the narrow-band photometry and stellar kinematics.







We found six new very metal-poor stars.

Let’s talk the detail survey methods and discussion in poster session !