



# PHYSICS AND ASTRONOMY SEMINAR

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## **“Searching for the most iron poor stars of the Galactic halo”**

### Abstract

The most metal-poor stars originated in the Early Universe from the mixture of primordial material from the Big Bang and the matter ejected from the first supernovae. Those stars are relics of the early epochs of the formation of the Milky Way, so their chemical compositions hold very relevant information on the mass of the first stars and the early chemical evolution of the Galaxy.

During the last years we have been exploring the SDSS and LAMOST spectroscopic surveys and have identified a few tens of such stars at  $[\text{Fe}/\text{H}] < -3$ . We have obtained follow-up spectroscopic observations with the William Herschel Telescope and the Gran Telescopio Canarias to confirm these candidates. We have recently discovered several very primitive stars with extremely low iron content. These stars could provide new constraints on the formation of the first stars and the properties of the first supernovae, as well as new clues on the processes for formation of low-mass stars in the Early Universe.

In this talk I will briefly summarize the status of this field and the work we have been doing at the IAC to search and characterize these extremely iron-poor stars.

Friday, September 21, 2018

11:30 a.m.

Cornett – Room B107