

## The recent discovery of two extremely metal-poor dwarf stars in the Galactic halo

*Monday, 3 December 2018 15:15 (20 minutes)*

The most ancient stars witnessed the assembly of the Galaxy, and they are key for studying the chemical history of the Milky Way. Extremely metal-poor stars offer an opportunity to learn about low-mass star formation, Galactic evolution and supernovae yields. During the last few years we have been exploring the SDSS and LAMOST low-resolution spectroscopic surveys to identify stars at  $[\text{Fe}/\text{H}] < -3$ . Using medium-resolution spectroscopy with ISIS at WHT and OSIRIS at GTC we have followed-up more than 60 promising candidates. Six stars were confirmed to belong to the regime  $[\text{Fe}/\text{H}] < -4$ . We have in particular discovered two very primitive dwarf stars, both with  $T_{\text{eff}} \sim 6200$  K: SDSS J0815+4729 at  $[\text{Fe}/\text{H}] < -5$  and SDSS J0023+0307 at  $[\text{Fe}/\text{H}] < -6$ . The mere existence of these two stars provides new constraints on the properties of first stars and demonstrates that our methodology is highly efficient identifying metal-poor candidates from large spectroscopic surveys.

### Affiliation

Instituto de Astrofísica de Canarias

### Talk/Poster

Talk

**Primary authors:** D. AGUADO, David (Instituto de Astrofísica de Canarias); Dr GONZÁLEZ HERNÁNDEZ, Jonay I. (Instituto de Astrofísica de Canarias); Dr ALLENDE PRIETO, Carlos (Instituto de Astrofísica de Canarias); Dr REBOLO, Rafa (Instituto de Astrofísica de Canarias)

**Presenter:** D. AGUADO, David (Instituto de Astrofísica de Canarias)

**Session Classification:** EMP Stars: Observation