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Chemical Evolution of Dwarf Satellites: Before and After Subaru/PFS

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The dwarf galaxies in the Local Group are excellent laboratories for studying the creation of the elements (nucleosynthesis) and the build-up of those elements over time (chemical evolution). The galaxies' proximity permits spectroscopy of individual stars, from which detailed elemental abundances can be measured. Their small sizes and, in some cases, short star formation lifetimes imprinted chemical histories that are easy to interpret relative to larger, more complex galaxies, like the Milky Way.

I will briefly review the current state-of-the-art in using dwarf galaxies to study nucleosynthesis and galactic chemical evolution. I will focus on results obtained from multiplexed spectrographs, like Keck/DEIMOS. Then, I will discuss plans for the Subaru Prime Focus Spectrograph to study dwarf galaxies. The combination of PFS's field of view (1.3 deg^2) and multiplexing (2394 fibers) will aid in the search for the first stars and revolutionize our understanding of the chemical evolution of these important galaxies.

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Talk/Poster

Talk

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