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Title: The Interplay of Seismology and Stellar Populations

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Abstract: Accurate measurements of fundamental stellar properties are required to improve our understanding of

stellar populations and galactic evolution. Asteroseismology makes possible the measurement of mass and radius for thousands of red giant stars in the Kepler field. Asteroseismic surface gravities offer an order of magnitude improvement in precision over spectroscopic measurements. These precise surface gravities, combined with spectroscopic stellar parameters and chemical abundance measurements from the SDSS-III APOGEE survey allows us to identify and characterize interesting subsets of stars. I will

describe the

symbiotic relationship between asteroseismology and populations studies. In one case, members of the Galactic halo have well-understood mass/age constraints that may be used to calibrate asteroseismic relationships. In another, an asteroseismically-identified population of secondary red clump stars allows us to better understand the metallicity distribution of stars formed 1 Gyr ago. Together, these examples showcase the importance of Kepler for determining both the properties of stars and their place in the Galaxy's history.