

Abstract Submitted  
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**Analyzing solar-type stars in the infrared with APOGEE** JESSICA GALBRAITH-FREW, INESE I. IVANS, University of Utah, APOGEE COLLABORATION — The Apache Point Observatory Galactic Evolution Experiment (APOGEE) is a high resolution spectroscopic survey aimed at understanding the chemical and kinematic properties of stars in our galaxy, and is one of four experiments in the Sloan Digital Sky Survey III (SDSSIII). The APOGEE data is the first high resolution spectra collected in the infrared (IR), and contains features for more than 15 elements. The APOGEE spectra are run through an automated pipeline to determine the stars effective temperature, surface gravity, metallicity (stellar parameters), and the stars chemical composition. These parameters are required for modeling a stars atmosphere and spectrum. A majority of the stars observed by APOGEE are in a different evolutionary state than the sun, and have calibration relations. For solar-type stars, further analysis is needed to provide parameters for calibration relations. To this end we are studying the sensitivity of different spectral features to the stellar properties, to find a technique to independently determine temperature, surface gravity, and metallicity. Once the properties of these stars are determined, we can determine the chemical composition of the star using standard spectroscopic techniques. Over 200 of the APOGEE solar-type stars have planetary candidates from the Kepler spacecraft. The chemical composition of solar-type stars can be used to study how the composition of a host star impacts its planetary companions or lack thereof.

Jessica Galbraith-Frew  
University of Utah

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