

## DEVELOPMENT OF NEXT- GENERATION ULTRAVIOLET ASTRONOMICAL INSTRUMENTATION

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Wednesday, March 7, 2012 ❖ 4:00 P.M. ❖ NSH 118  
(Refreshments at 3:30 P.M. NSH 202)

Investigations into the life cycle of cosmic matter will drive future ultraviolet (UV)/optical space missions. Whether studying the flow of intergalactic gas into galaxies, or the formation and evolution of exoplanetary systems, UV instruments capable of delivering high resolution with low backgrounds over a broad bandpass will prove essential tools.

I am developing a rocket-borne instrument, the Colorado High-resolution Echelle Stellar Spectrograph (CHESS), as a pathfinder for future high-sensitivity, high-resolution UV spectrographs. CHESS will target the 100 - 160 nm bandpass, which includes key atomic and molecular spectral diagnostics for the intergalactic medium, exoplanetary atmospheres, and protoplanetary disks. By measuring the spectra from two nearby hot stars, CHESS will prove several new technologies critical to next generation UV instruments in a flight environment and resolve a question regarding the constituents of the interstellar medium.

Within this talk, I will trace the development of the CHESS rocket payload from concept to launch, and explore the potential demand for future UV instruments with the capabilities.

Colloquium

All interested  
persons are  
cordially  
invited to  
attend.