Characterizing Lyman Spitzer's Galactic Corona

Principal Investigator: Dr. Bart P. Wakker

Institution: University of Wisconsin - Madison

Electronic Mail: wakker@astro.wisc.edu

Scientific Category: ISM AND CIRCUMSTELLAR MATTER

Scientific Keywords: GALACTIC HALO, INTERSTELLAR AND INTERGALACTIC MEDIUM, METAL ABSORPTION SYSTEMS

Total Budget Amount: $84,149

Abstract

Hot gas plays a fundamental role in regulating the structure and evolution of the ISM in galaxies, as first proposed by Spitzer in 1956. In order to understand the processes regulating the hot gas, we propose to measure and characterize the physical conditions in our Galaxy's Halo. We will do this using a sample of 26 sightlines to extra-galactic targets for which an S/N>7 per resolution element near OVI, NV and CIV has been achieved with both FUSE and the STIS-E140M on HST. We will also include the 40 other sightlines for which only two of these three species can be measured well. Using this data, we will: a) try to determine the relative roles of photoionization and collisional ionization; b) compare the properties of the high ions in the Milky Way Thick Disk to those in other environments; c) measure ionic ratios and compare these with the predictions of many different models for Galactic Halo gas; d) compare the kinematical properties of the high-, intermediate- and low-ionization species; e) search for associations of unusual ionic ratios with known structures.

Investigators:

	Investigator	Institution	Country
PI	Dr. Bart P. Wakker	University of Wisconsin - Madison	USA/WI
CoI	Dr. Blair D. Savage	University of Wisconsin - Madison	USA/WI

Number of investigators: 2