In order to test this prediction, we conducted a 40-day flux monitoring program of 25 pulsars. Daily flux measurements were made at 310 MHz, 416 MHz, and 750 MHz with the NRAO 92-m telescope. Pulsars were chosen with a wide range of dispersion measure (3 < DM < 160); predicted time scales range from shorter than our sampling interval to longer than the duration of the observations.

We will compare the observed variability time scales with the dispersion measure and frequency scaling expected from refractive scintillation theory. Implications for low-frequency variability of extragalactic sources will be discussed.

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56.03 New Insights into Degenerate Stars and Interacting Stellar Systems

J.C. Raymond (CFA)

Observations below 1200 Å can answer many questions pertaining to degenerate stars and the physics of accretion. They can tell us the elemental abundances of hot white dwarfs, permitting inferences regarding diffusion and white dwarf evolution. In binary systems having mass transfer onto a degenerate star, the EUV region is especially important. In many cases most of the accretion energy is liberated at these wavelengths. Among the mysteries to be studied are the prevalence of hot white dwarfs in cataclysmic variables, the outburst mechanism, and the formation of emission lines.

56.04 New Insights Into Interacting Stellar Systems

Yoji Kondo (NASA/GSFC)

Recent observational results, particularly those obtained from UV and X-ray satellites, show that the solar system is embedded in a warm (T ~ 10^4 K), relatively low-density (~0.1 atom cm^-3) cloud. This cloud extends a few parsecs in all directions. Beyond this cloud is a circumstellar, hot (T ~ 10^6 K) and rafified (~0.01 - 0.001 atom cm^-3) plasma extending at least 50 parsecs in every direction investigated. This hot plasma is practically transparent to the extreme UV radiation even shorward of Lyman continuum absorption head at 912 Å. This makes it possible to study several dozen binaries in the EUV wavelengths from EUV satellite observatories such as Columbus. Examples of such binaries will be given and the importance of EUV observations in understanding the nature of mass flow and the evolutionary processes in interacting binaries will be discussed.

56.05 New Insights into Solar System Objects

W. Moos (Johns Hopkins U.)

This talk will review the new information about solar system objects obtainable by using ultraviolet astronomy below Lyman-alpha. Some of the best guides are the results of the Voyager ultraviolet spectrometers. The toroidal plasma nebulae near the path of Io about Jupiter shows strong emissions in this spectral region due to S and O ions. Auroral processes on Jupiter and Saturn excite the intense Lyman bands of H2. The spectrum of Titan