

Polar Coronal Hole Size Variation Through The Solar Cycle

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The sizes of polar coronal holes are an interesting question in solar physics. Coronal holes in general are the sources of fast solar wind. They appear to be darker than other regions in the corona, implying less gas density, and possibly open magnetic fields. Polar holes exist throughout the entire solar cycle but their size is often reported to vary with time, perhaps reflecting important changes in the convection zone. I will present a study of the sizes of the polar holes using observational data taken at various wavelengths between 1996 and the present. These wavelengths include He10830 which is traditionally used to identify coronal holes; white light in which the corona is imaged from 1.1 to 5 solar radii; UV with which the corona is observed constantly with SOHO/EIT. The reliable data flow provides a new aspect of the long time variation of the corona.