



IBEX Observations of the Outer Heliosphere

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The Interstellar Boundary Explorer (IBEX) generated the first all-sky maps of Energetic Neutral Atoms (ENAs) emanating in from the boundaries of our heliosphere over the energy range from ~ 0.1 -6 keV. These observations discovered a smoothly varying, globally distributed ENA flux overlaid by a narrow “ribbon” of significantly enhanced ENA emissions. Since the initial publications of these results (McComas et al., 2009 and other papers in the same issue of *Science*), IBEX has completed three more energy-resolved sets of sky maps, which show that this large-scale structure has been generally stable over the past two years. However, these observations also show some very intriguing temporal changes in the outer heliospheric ENA emissions. This paper provides an update on the recent IBEX observations in general and examines their temporal evolution in particular. The observed large-scale stability and evolution at smaller spatial scales, along with newer enhanced analyses of the combined sky maps, provide important new information about the outer heliosphere and its global interaction with the galaxy, and help inform possible mechanisms for producing the globally distributed ENA flux and IBEX ribbon.

McComas, D.J., et al., Global observations of the interstellar interaction from the Interstellar Boundary Explorer (IBEX), *Science*, 326, doi: 10.1126/science.1180906, 959-962, 2009.