

Extreme ultraviolet - a window on the global heliosphere

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Imaging of the global heliosphere at 30.4 nm opens a way of exploring the three-dimensional structure of the solar wind flow and of the region of its interaction with the surrounding galactic medium. Three processes will contribute to the radiation in this spectral band: glow of the interstellar plasma flowing around the heliopause; glow of the solar wind pickup ions; and solar wind emissions. All-sky images at 30.4 nm with high spectral resolution would map the heliopause; probe the properties of the solar wind pickup ions and the ionization state of the interstellar plasma; and reveal the three-dimensional flow properties of the solar wind, including the flow in the regions over the sun's poles, and their variations during the 11-year solar cycle. The new instrumentation concept to meet the enormous experimental challenge has been developed and its feasibility is being currently investigated.