

XRISM and atomic processes in plasmas

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The X-ray Imaging and Spectroscopy Mission (XRISM) is a Collaborative Mission jointly developed by NASA and the Japanese Space Agency (JAXA), with the European Space Agency (ESA) participation. It will have two instruments: Resolve: a soft X-ray (0.3–12 keV) spectrometer providing non-dispersive high-resolution X-ray spectroscopy; and Xtend: a 40 arcminute field of view soft X-ray imager. XRISM is scheduled to launch from Japan in May of 2023. The mission is to recover science lost with the demise of Hitomi in 2016. After a 9-month calibration and performance verification phase, the rest of the mission lifetime will be for General Observers worldwide. In this talk I will review the capabilities of XRISM, and some of the science goals for the observations to be carried out during the performance verification phase. I will highlight the fundamental atomic physics knowledge needed in order to interpret XRISM observational data, and also how this impacts the XRISM science.

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