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The inner heliospheric source for keV energetic neutral atoms

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In the first 18 months after launch in October 2008, the IBEX mission uncovered a unique and persistent feature in the energetic neutral atom (ENA) flows penetrating the solar system. This feature, a strongly localised active emission region (called the "ribbon"), is completely absent in earlier modelings, and only recently, first modeling attempts have started trying to explain this behaviour. We present a model for enhanced ENA generation due to energetic ions injected into the anomalous cosmic ray regime at the termination shock of the solar system, demonstrating that this process may qualitatively explain a local narrow emission region; however, due to a high sensitivity to several model parameters, more detailed models of the heliosphere and especially the TS geometry are necessary to make predictions more quantitative.