

Abstract Submitted
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Using IBEX-Lo to Determine the He Component of the Interstellar Flow LEE PETERSEN, University of New Hampshire, IBEX-LO TEAM — IBEX-Lo is a powerful, large aperture camera that detects neutral atoms (ENA) from Earth orbit by converting an incoming ENA to a negative ion on a diamond-like carbon conversion surface. The energy of the ENAs is restricted by an electrostatic analyzer and then boosted by post-acceleration before they are analyzed for their energy/mass in a time-of-flight (TOF) spectrometer. The efficiency of the TOF spectrometer and the conditions for the generation of negative ions on the conversion surface limit direct detection to only three species (hydrogen, carbon, and oxygen). However, on the conversion surface two other effects occur: sputtering and knock-off of secondary ions. These effects are both species and energy dependent. Through analyzing the species ratios of ions emerging from the conversion surface and comparing them to calibration measurements with known species and energy, the distribution of He (and possibly Ne) from the interstellar flow can be determined.

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