



Calibration of Instruments for Detection of Energetic Neutral Atoms (ENA)

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In recent years, at the University of Bern, we set up a unique ion beam facility for the calibration of energetic neutral particle sensing instruments. The system consists of an ion source with a beam energy of 3 keV and a subsequent neutralization stage, which creates neutrals in an energy range from approx. 2500 eV to 10 eV. The instrument is mounted in a vacuum chamber (achievable pressure in the 10^{-9} mbar range) on a hexapod-table, which allows the instrument to be moved within 5 degrees of freedom. Furthermore, the vacuum chamber and the instrument can be cooled or heated independently.

In 2007, with this setup, the IBEX-Lo instrument of NASA's IBEX mission (launch scheduled for June 2008) was successfully calibrated. We will report about these measurements as well as about the unique neutralization principle and the calibration itself of our neutralization stage.