

THE ENERGETIC TRANS-IRON COMPOSITION EXPERIMENT (ENTICE) ON THE HEAVY NUCLEI EXPLORER (HNX)

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The ENTICE experiment is one of two instruments which make up the HNX mission. The experimental goal of ENTICE is to measure with high precision the elemental abundances of all nuclei with $10 \leq Z \leq 82$. This will enable us to distinguish between possible injection mechanisms for the galactic cosmic ray accelerator such as those dependent upon volatility or first ionization potential, and to study the mix of nucleosynthetic processes that contribute to the galactic cosmic ray source. The ENTICE experiment utilizes the dE/dx -C method of charge determination and consists of silicon dE/dx detectors, Cherenkov detectors with two different refractive indices, and a scintillating fiber hodoscope. The geometrical factor of the instrument is $8\text{m}^2\text{sr}$. We will present a description of the instrument and its expected performance based on beam tests and a balloon flight of a prototype instrument.