

THE HEAVY NUCLEI EXPLORER (HNX) MISSION

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The Heavy Nuclei eXplorer (HNX) mission was recently selected by NASA for a Small Explorer (SMEX) Mission Concept Study that is expected to begin on May 1, 2001. The primary scientific objectives of HNX are to measure the age of the galactic cosmic rays (GCR) since nucleosynthesis, distinguish between possible injection mechanisms for the GCR accelerator such as those dependent on volatility or first ionization potential, and study the mix of nucleosynthetic processes that contribute to the source of GCRs. The experimental goal of HNX is to measure the elemental abundances of all individual stable nuclei from neon through the actinides and possibly beyond. HNX is composed of two instruments: ECCO, which measures elemental abundances of nuclei with $Z \geq 72$, and ENTICE, which measures elemental abundances of nuclei with $10 \leq Z \leq 82$. The mission and the science that can be addressed by HNX will be discussed.