

## **A Balloon Borne Instrument For Measuring the Abundances of Ultra-Heavy Galactic Cosmic Rays**

J.T. Link(1), L.M. Barbier(2), W.R. Binns(1), E.R. Christian(3), J.R. Cummings(1), G.A. de Nolfo(3), P.F. Dowkontt(1), J.W. Epstein(1), P.L. Hink(1), M.H. Israel(1), R.A. Mewaldt(2), J.W. Mitchell(3), M.A. Olevitch(1), S.M. Schindler(2), E.C. Stone (2), R.E. Streitmatter(3), and C. J. Waddington(4)  
jason@cosray2.wustl.edu/Fax (314) 935-6219

(1) Washington University (2) California Institute of Technology, (3) Goddard Space Flight Center, (4) University of Minnesota

The Trans-Iron Galactic Element Recorder (TIGER) is a balloon-borne cosmic-ray detector to be flown from Antarctica in December 2001. It consists of two Cherenkov detectors with radiators of different refraction indices, four scintillation counters and a scintillating fiber hodoscope. It will be able to measure the elemental abundances of GCRs with  $26 \leq Z \leq 40$  and energies above 300 MeV/nucleon. TIGER will provide for the first time measurements of the individual abundances of the odd-Z elements between  $Z=30$  and  $Z=40$ . These odd-Z nuclei are important for distinguishing between the effects of first-ionization potential and volatility in the injection process, for models of nucleosynthesis, and, for constraining models of cosmic-ray propagation at short pathlengths. We will discuss some of the scientific questions we hope to be able to address with the TIGER mission and report on the status of the TIGER instrument development.