Abstract Submitted
for the APR06 Meeting of
The American Physical Society

Co/Ni Ratio in Galactic Cosmic Rays: Results from the TIGER-2001 Flight G.A. DE NOLFO, L.M. BARBIER, J.R. CUMMINGS, J.W. MITCHELL, R.E. STREITMATTER, NASA/GSFC, Greenbelt MD 20771, W.R. BINNS, M.H. ISRAEL, J.T. LINK, B.F. RAUCH, L.M. SCOTT, Washington U., St. Louis MO, S. GEIER, R.A. MEWALDT, S.M. SCHINDLER, E.C. STONE, Caltech, Pasadena CA, C.J. WADDINGTON, U. of Minnesota, Minneapolis MN, M.E. WIEDENBECK, Jet Propulsion Lab, Pasadena CA — The Trans-Iron Galactic Element Recorder (TIGER) has completed two successful Antarctic flights in December/January of 2001 and 2003. TIGER was designed to observe elements in galactic cosmic rays (GCR) ranging from $14 \leq Z \leq 40$ over an extended energy range. Observations of the isotopes of Co and Ni at low energies, in particular, the observation of ^{59}Ni and ^{59}Co from the Cosmic Ray Isotope Spectrometer on Advanced Composition Explorer, indicate that a significant time delay ($>7.6\text{x}10^4$ yr) exists between nucleosynthesis and acceleration of GCRs. While TIGER is not able to resolve isotopes, observations of the elemental abundance of Co and Ni at energies higher than CRIS/ACE further constrain models for GCR acceleration and propagation. With a 2001 flight of nearly 32 days, TIGER collected sufficient statistics to study the Co/Ni elemental ratio over a wide range in energy from ∼0.8-5 GeV/nucleon. We present the Co/Ni ratio observed from TIGER's first successful Antarctic flight in 2001 and compare these results with previous observations and with the predictions from GCR propagation models.

G.A. de Nolfo
NASA/GSFC, Greenbelt MD, 20771

Date submitted: 13 Jan 2006 Electronic form version 1.4