ULYSSES HIGH ENERGY TELESCOPE MEASUREMENTS OF THE ISOTOPIC ABUNDANCES OF GALACTIC COSMIC RAYS FOR ELEMENTS BETWEEN C AND FE WITH ESTIMATES OF THE SOURCE COMPOSITION

J. J. Connell
The Laboratory for Astrophysics and Space Research, The Enrico Fermi Institute, The University of Chicago, Chicago IL 60637, USA.
connell@odysseus.uchicago.edu

We report new and revised high resolution measurements of the isotopic composition of Galactic cosmic rays using data from the High Energy Telescope (HET) on the *Ulysses* spacecraft. These data have significantly improved statistics compared with our earlier measurements. Mass resolution varies from ∼0.10 to ∼0.27 u at observed energies of ∼100 to ∼300 MeV/u for elements C to Ni. Using a weighted slab model of cosmic ray propagation and correcting for Solar modulation we determine source isotopic abundance ratios. With the notable exception of ^{22}Ne, the source isotopic abundances ratios are remarkably similar to Solar compostion. These source abundances provide important constraints on models for the origin and nucleosynthetic history of comic rays.