

## **AVERAGE ELEMENTAL AND ISOTOPIC COMPOSITION OF SMALL SEP EVENTS**

**P. L. Slocum** (1), E. R. Christian (2), C. M. S. Cohen (3), A. C. Cummings (3), R. A. Leske (3), R. A. Mewaldt (3), E. C. Stone (3), T. T. von Rosenvinge (2) and M. E. Wiedenbeck (1)

(1) Jet Propulsion Laboratory, Pasadena, CA USA, (2) NASA/Goddard Space Flight Center, Greenbelt, MD USA, (3) California Institute of Technology, Pasadena, CA USA.

Using the Solar Isotope Spectrometer on the Advanced Composition Explorer, we have measured the heavy ( $Z \geq 6$ ) element abundances of  $\sim 50$  small solar energetic particle (SEP) events which occurred between 31 March 1998 and the present. The events have been classified according to their elemental and isotopic composition as well as other defining characteristics. With the event-averaged heavy element fluences, we have searched for a dependence of abundances relative to those of the solar photosphere on first ionization potential (FIP). Where possible, we have examined the FIP fractionation effects on the average composition of the small SEP events, and discuss the ensuing implications for the origin and acceleration of nuclei in these events. This research was supported by NASA at Caltech (under grant NAG5-6912), JPL, and GSFC.