

Abstract Submitted
for the APR17 Meeting of
The American Physical Society

Cosmic Rays below 1 GeV/nucleon: Results from 19 Years of Observations with the Cosmic Ray Isotope Spectrometer on ACE M. E. WIEDENBECK, JPL/Caltech, W. R. BINNS, Washington U., E. R. CHRISTIAN, NASA/GSFC, C. M. S. COHEN, A. C. CUMMINGS, Caltech, G. A. DE NOLFO, NASA/GSFC, M. H. ISRAEL, Washington U., A. W. LABRADOR, R. A. LESKE, R. A. MEWALDT, E. C. STONE, Caltech, T. T. VON ROSENVINGE, NASA/GSFC — The Cosmic Ray Isotope Spectrometer (CRIS) instrument on NASA's Advanced Composition Explorer mission has been making high-precision measurements of cosmic-ray elemental and isotopic composition and energy spectra below 1 GeV/nucleon since August 1997. The long period of data collection, now in its 20th year, and the large geometrical acceptance ($\sim 250 \text{ cm}^2\text{sr}$) have made it possible to study very rare species, including including some primary radionuclides and a number of stable elements with $Z > 28$. Using measurements of elemental spectra on time scales as short as a month, CRIS has been tracking the level of solar modulation over nearly two full solar cycles, including the lowest level encountered since the start of the space age. The energy range covered by these spectra is being extended using new techniques for measuring nuclides that penetrate beyond the sensitive volume of the CRIS instrument and by utilizing complementary data obtained from the Solar Isotope Spectrometer (SIS), also on ACE. A summary of the most significant cosmic-ray results from ACE will be presented and future prospects will be discussed.

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Date submitted: 30 Sep 2016

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