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**Elemental and isotopic abundance measurements of nuclei with Z>28 from the ACE-CRIS experiment and the OB association origin of galactic cosmic rays** W.R. BINNS, M.H. ISRAEL, Washington University in St. Louis, E.R. CHRISTIAN, G.A. DE NOLFO, T.T. VON ROSENVINGE, NASA/Goddard Space Flight Center, A.C. CUMMINGS, R.A. LESKE, R.A. MEWALDT, E.C. STONE, Caltech, M.E. WIEDENBECK, JPL/Caltech — We summarize measurements made of the elemental and isotopic abundances of galactic cosmic ray nuclei by the Cosmic Ray Isotope Spectrometer (CRIS) on the NASA Advanced Composition Explorer (ACE) satellite over a period of 14 years in space. We have measured the isotopic abundances of Ga (Z=31) and Ge (Z=32) for the first time and have obtained greatly improved measurements of the Cu (Z=29) and Zn (Z=30) isotopes. We have also measured the elemental abundances of nuclei up to Sr (Z=38). A total of ∼700 nuclei heavier than Ni (Z=28) have been collected with energies in the range of ∼150 to 600 MeV/nucleon. Our earlier published work on isotopes with Z<28 has shown abundances consistent with an OB association origin of a substantial fraction of galactic cosmic rays. This is based primarily on the enhanced $^{22}$Ne/$^{20}$Ne and $^{58}$Fe/$^{56}$Fe ratios relative to solar system abundances. $^{22}$Ne and $^{58}$Fe are copiously produced in Wolf-Rayet stars, which are found primarily in OB associations. The elemental abundances of Z>29 nuclei provide completely independent evidence that also points to an OB association origin. The isotopic abundances of Cu, Zn, Ga, and Ge are consistent with either an OB association or normal interstellar medium origin. This research was supported by NASA under grant NNX11AC49G.

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