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Updates to the results of the Ultra-Heavy Cosmic Ray Analysis with CALET on the International Space Station

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The Calorimetric Electron Telescope (CALET), launched to the International Space Station in August 2015 and continuously operating since, measures cosmic-ray (CR) electrons, nuclei, and gamma rays. CALET, with its 30 radiation length deep calorimeter, measures particle energy, allowing for the determination of primary and secondary nuclei spectra and secondary to primary ratios of the more abundant CR nuclei through ^{28}Ni , while the main charge detector (CHD) can measure Ultra-Heavy (UH) CR nuclei up to and beyond ^{40}Zr , with our recently submitted results to ApJ showing consistency with ACE-CRIS, SuperTIGER, and HEAO-3 through ^{44}Ru . By using the special high-duty cycle (~90%) UH trigger in conjunction with a data selection cut that requires events to pass into the Total Absorption Calorimeter (TASC), we have leveraged energy information in our charge assignment routine. Simulations using Geant4 and EPICS are then used to evaluate data cuts in the analysis and corrections. In this ICRC, we will show how these flight simulations align with data, how analysis selection cuts have been made, and how a set of corrections for instrument systematics was produced.

Collaboration(s)

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