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Predicted CALET Measurements of Ultra-Heavy Cosmic Ray Abundances[1] BRIAN RAUCH, Department of Physics and McDonnell Center for the Space Sciences, Washington University in St. Louis, FOR THE CALET COLLABORATION — The CALorimetric Electron Telescope (CALET), comprised of main calorimeter telescope (CAL) and Gamma-ray Burst Monitor (CGBM), is under construction for launch to the ISS in 2014. CAL consists of a Charge Detector (CHD) with two segmented planes of 1 cm thick plastic scintillator, an Imaging Calorimeter (IMC) with a total of 3 radiation lengths (X_0) of tungsten plates read out with 8 planes of interleaved scintillating fibers, and a Total Absorption Calorimeter (TASC) with 27 X_0 of lead tungstate (PWO) logs. The primary objectives of CAL are to measure electron energy spectra from 1GeV to 20 TeV, to detect gamma-rays above 10 GeV, and to measure the energy spectra of nuclei from protons through iron up to 1,000 TeV. In this paper we discuss the predicted abundance measurements CAL can make of rare ultra-heavy (UH) nuclei ($30 \leq Z \leq 40$). In addition to the nuclei that pass within the full CAL geometry, UH nuclei can be resolved using the CHD and top IMC layers without requiring particle energy determination in the TASC in the portion of the ISS 51.6° inclination orbit where the geomagnetic rigidity cutoffs are above minimum ionization in the scintillator. In 5-years CAL would collect 4-5 times the UH statistics of TIGER.

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Brian Rauch
Dept of Physics and McDonnell Center for the Space Sciences,
Washington University in St. Louis

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