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Particle astrophysics at zettavolt energies with radio detectors in low lunar orbit ANDRES ROMERO-WOLF, Jet Propulsion Laboratory — Despite nearly 100 years since their first observations, little is still known about the sources of the cosmic rays at the end of the energy spectrum and the processes by which they are accelerated. At rates of < 1 / km^2 / century, detecting these particles and extracting information from them requires extremely large effective area detectors. In this talk I will present a concept for using radio detection of cosmic rays interacting in the Moons regolith from low lunar orbit to probe spectral recovery above the highest energies observed, spatial clustering to identify sources, and a channel for detection of secondary particles from the decay of hypothesized superheavy dark matter particles.

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