IAF SPACE EXPLORATION SYMPOSIUM (A3)
Interactive Presentations - IAF SPACE EXPLORATION SYMPOSIUM (IP)

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EDUCATIONAL MOON EARTH CUBESAT - EMEC: REMOTE SENSING OF EARTH AND LUNAR SURFACE

Abstract

This presentation discusses the design and implementation of an educational 3U CubeSat with two primary applications: remote sensing of Earth and lunar surface studies. Equipped with advanced imaging and spectrometric instruments, the CubeSat aims to monitor environmental changes on Earth and analyze the composition of the lunar surface. This program will not only foster education and capacity building but also advance CubeSat technology for future space endeavors. The Earth Orbit CubeSat will focus on monitoring land and vegetation spectral signatures. Meanwhile, the Lunar CubeSat, featuring multi-band imaging capabilities, will investigate the lunar regolith, emphasizing its mineralogical composition and the identification of valuable resources such as water ice and hydrogen, which are critical for future exploration. The Lunar CubeSat will be deployed from a lunar lander mounted on a wheeled rover, demonstrating innovative approaches to space research and exploration.