

CIF 22-8: Electrodynamic Regolith Conveyor

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Activity Type: New Start

Primary STMD Taxonomy: TX07.1.2 Resource Acquisition, Isolation, and Preparation

Start TRL: 3

End TRL: 3

Executive Summary: NASA KSC's Swamp Works Electrostatics and Surface Physics Laboratory (ESPL) is developing a 4-phase Electrodynamic Regolith Conveyor (ERC) that could convey regolith without the risk of rotating or vibratory actuation, which could jam or require regular maintenance due to the abrasive nature of Lunar regolith. A prototype conveyor has been developed for laboratory testing in a simulated Lunar gravity environment using a suborbital vehicle. The results of the project will be used for development of the 4-phase electrodynamic conveyors for Lunar ISRU, regolith surface sampling, and dust mitigation solutions.