

POSTER

Development of Dust Mitigation Technologies

C.I. Calle¹, C.R. Buhler², S.J. Snyder², M.D. Hogue, J.S. Clements³, and A. Chen⁴

¹ *Electrostatics and Surface Physics Laboratory, NASA, Kennedy Space Center, FL*

² *ASRC Aerospace, Kennedy Space Center, FL*

³ *Department of Physics, Appalachian State University, Boone, NC*

⁴ *Department of Physics, Oklahoma Baptist University, Shawnee, OK*

We report on our recent development of the Electrodynamic Dust Shield, a technology capable of removing dust deposited on surfaces and of preventing the accumulation of dust. We have built prototypes of transparent dust shields using indium tin oxide electrodes for optical systems, solar panels, and thermal radiators. We have also developed prototypes of opaque dust shields that can protect mechanical joints and seals and flexible dust shields that can be used to remove dust from spacesuits. These prototypes have been tested at high vacuum to simulate the lunar environment.