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Measurements of the Radiation Induced Conductivity of Insulating Polymeric Materials for the James Webb Space Telescope J. CORBRIDGE, J.R. DENNISON, J. HODGES, R.C. HOFFMANN, J. ABBOTT, Utah State University, A. HUNT, R. SPAULDING, Idaho State University — We report on initial measurements of *Radiation Induced Conductivity (RIC)* for twelve thin film polymer materials that are used in the cabling of the James Webb Space Telescope. Results will be used to model possible detrimental arching due to space craft charging effects. RIC occurs when incident ionizing radiation deposits energy in a material and excites electrons into the conduction band of insulators. RIC is determined using a constant voltage test method as the difference in the equilibrium sample conductivity under no incident radiation and sample conductivity under an incident flux. An accelerator beam at the Idaho Accelerator Center provides the 2-5 MeV incident flux over a range of 10^{2} to 10^{+1} rad/sec. Measurements are made for a range of applied voltages and radiation dose rates.

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