Abstract Submitted
for the TSF07 Meeting of
The American Physical Society

Using UV Illumination to Mitigate Excess Charge on Optics in Vacuum[1] MARK GIRARD, DENNIS UGOLINI, Trinity University — We have studied UV illumination techniques to remove excess surface charge from fused silica optics. We commissioned and calibrated a commercial Kelvin probe to measure the surface potential of charged optics in vacuum. Using a Xenon light source and a monochromator, we directed UV light at the sample and were able to remove the excess charge. We determined that the discharging rate scaled linearly with the intensity of the light and the charge density on the surface. By varying the wavelength of the light, we saw a peak discharge rate at 215nm in both uncoated and coated optics.

[1]Supported by the National Science Foundation Grant No. PHY-0646718.

Dennis Ugolini
Trinity University

Date submitted: 27 Sep 2007 Electronic form version 1.4