

Abstract Submitted
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Space Radiation Resiliency of Carbon Nanotube and Semiconductor Nanowire Based Nanocircuits¹ BENJAMIN JACOBS, Michigan State University, MARK ENGLUND, VIRGINIA AYRES, REG RONNINGEN, AL ZELLER, HARRY SHAW, JEANETTE BENAVIDES, NASA Goddard Space Flight Center, MIHAIL PETKOV, NASA Jet Propulsion Laboratory, JOSHUA HALPERN, ALAN KOGUT, NASA Goddard Space Flight Center, MARTIN CRIMP, Michigan State University — With increasing need for radiation resilient space electronics for the next generation satellites and probes, new materials and electronics utilizing these materials must be examined. We present results of carbon nanotube and gallium nitride nanowire which underwent heavy ion in the form of ⁸⁶Krypton as well as total ionization dose radiation. Electronic characteristics of the circuits before and after irradiation were taken as well as during radiation. Heavy ion and total dose irradiation of the raw materials, nanotubes and nanowires, and electrospun carbon nanofibers was irradiated as a control. Scanning, transmission, high resolution transmission and atomic force microscopy and Raman spectroscopy of materials was taken.

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