

Abstract Submitted
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Electron Impact Ionization of Neutral Particles Using Carbon Nanotubes GREGORY COPELAND, GABRIEL FONT-RODRIQUEZ, GEOFF MCHARG, ELIZABETH MITCHELL, TOMEK KOTT, None — We study the production of electrons using a thin two dimensional carbon nanotube array. We apply a potential of several hundred volts to the nanotube array to produce the electrons. We examine the electron current produced from the array as a function of applied voltage and the electron current versus time at one applied voltage. The electrons produced will be used in the detection of neutrals species in low Earth orbit by electron impact ionization of the neutral species followed by collection of the resulting ions. We theoretically investigate the predicted ionization rate and ion density as a function of electron current in a chamber with neutral particle densities appropriate to low Earth orbit.

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None

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