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Photon-assisted Plasma Breakdown Studies in Plane to Plane Discharges

Monday 21 May 2018 16:00 (30 minutes)

We present an overview of studies that examine the role of photo-assisted breakdown. Emphasis is placed on an experimental platform that subjects well-characterized platinum surfaces to pulsed UV illumination as functions of UV illumination and UV wavelengths spanning from 260 nm (4.77 eV) to 400 nm (3.11 EV), well below the 6 eV values often used for platinum. Application UV illumination is synchronized to voltage pulses applied across the anode-cathode gap to control the initiation of the breakdown event. Current-voltage characteristics measured during breakdown in modest pressures of helium gas (10-100 Torr) are compared to computational simulations.
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