

Energy coupling in a diode with a dielectric-gridded cathode

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It is shown experimentally that electrostatic coupling between the ferroelectric “capacitor” and the anode-cathode gap controls the emission process in ferroelectric cathode. Three main quantities were demonstrated to be directly correlated to the energy stored in the ferroelectric: the energy in the diode, the diode impedance, and the delay of the peak (anode) current relative to the triggering time of the ferroelectric. The polarity of the triggering voltage does not seem to have a significant impact on the performance of the diode. © 2000 American Institute of Physics.

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