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Ignition of explosive electron emission pulses - ectons as initiation of vacuum discharge stages - the breakdown, the spark, and the arc

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The vacuum discharge implies a formation of plasma from the electrode material for a large current transfer. It consists of three stages - vacuum breakdown, vacuum spark, and final - vacuum arc. The basic feature of all these stages - explosive electron emission (EEE) pulses - ectons that arise from microcenters at the cathode and are responsible for an electron emission current of a large density and large magnitude. Ignition of the EEE pulses under the external action of plasma and power fluxes at a surface of a fine structure is considered.

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G. A. Mesyats 2013 IEEE Trans. Plasma Sci. 41 676
S. A. Barengolts, G. A. Mesyats, and M. M. Tsventoukh 2010 Nucl. Fusion 50 125004
S. A. Barengolts, G. A. Mesyats, and M. M. Tsventoukh 2008 JETP 107 1039

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