

Trichel double pulse mode during corona discharge in air

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New data on the Trichel regime of a corona discharge in atmospheric pressure air have been obtained. With a quasi-stationary voltage of negative polarity at the gap between the tip (steel cathode) and the plane, a repetitively pulsed mode is implemented, in which two current pulses (peaks) with a small pause are generated with different duration, delay and amplitude, as well as a transient mode with an increased duration of Trichel pulses. The effect on the shape of the current pulses and the duration of the pause between them is shown by the voltage and an additional capacitor connected in parallel with the gap.

Keywords: Trichel pulses, two peaks, atmospheric air, streamer corona discharge.

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