

Abstract Submitted
for the GEC10 Meeting of
The American Physical Society

The study of the parameters of a streamer corona at high frequency pulses in the gas flow ALEXANDER PONIZOVSKIY, SERGE GOSTEEV, VLAD MELNIKOV, SERGE FILIPPOV, VLADIMIR MAEVSKIY, FMKB “HORIZON” TEAM — The streamer corona at high frequency pulses (100-1000 Hz) arises in conditions when inside of interaction space a high concentrations of ozone, nitrogen oxides, excited and ionized molecules of oxygen and nitrogen are produced. The influence of the gas flow rate (V) on the parameters of a streamer corona and the single streamers has been studied. Streamer corona was generated inside of coaxial reactor camera. The measurements of single streamer’s parameters were conducted by wire probe located on the grounded wall of RC. It was found that both the integral streamer current (I_{st}) and input in gas power (W) at constant U and f falls when V of air is reduced. The dependence of ozone yield ($G(V)$) from energy consumption on its production ($W_{sp}(V)$) have an extreme character, moreover, the G maximum and W_{sp} minimum corresponds to V values when a laminar flow transforms into turbulent one. Our probe may catch the single streamer after it crossing the space ($d=3\text{cm}$). It gives us the possibility to describe three scenario of the streamer development: No discharge, Streamer discharge on the front or trailing edge of pulses.

Alexander Ponizovskiy

Date submitted: 08 Jun 2010

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