

Abstract Submitted
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Ozone formation in pulsed SDBD in a wide pressure range ANDREY STARIKOVSKIY, MARYIA NUDNOVA, MIPT TEAM — Ozone concentration in surface anode-directed DBD for wide pressure range (150 - 1300 torr) was experimentally measured. Voltage and pressure effect were investigated. Reduced electric field was measured for anode-directed and cathode-directed SDBD. E/n values in cathode-directed SDBD is higher than in cathode-directed on 50 percent at atmospheric pressure. E/n value increase leads to decrease the rate of oxygen dissociation and Ozone formation at lower pressures. Radiating region thickness of sliding discharge was measured. Typical thickness of radiating zone is 0.4-1.0 mm within pressure range 220- 740 torr. It was shown that high-voltage pulsed nanosecond discharge due to high E/n value produces less Ozone with compare to other discharges. Kinetic model was proposed to describe Ozone formation in the pulsed nanosecond SDBD.

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