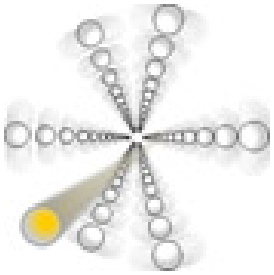

Contribution ID: **100** Type: **not specified**

About the Acoustoplasma State at Low Pressure

Thursday, 27 September 2012 19:37 (1 minute)

Changing of the emission spectrum of the first positive system of nitrogen is obtained in nitric low-pressure acoustoplasma (<1 torr) at a discharge current modulation. The intensity of all lines of the first positive system of nitrogen decreases, while the intensity of the line of doubly ionized nitrogen atom N II at 0,6482 micron is increasing significantly. Because the ionization potential of the N II ion is equal to 29,6 eV, for multiplying intensity of shining of this line energy of the electrons must be of the same order. The decreasing of the line intensities of the first positive system of nitrogen suggests that the average energy of electrons is much greater than the ionization potential of N I = 14,5 eV. The form of the spectrum suggests that the step ionization is not happened, but only single. Consequently, character of spectrum of nitric low- pressure acoustoplasma allows to talk that the middle electron energy increases from ~ 1 eV (for the usual plasma without acoustic disturbance) to 30 eV, and more (for acoustoplasma). I.e. practically takes place not step and single ionization. Also is observed the possibility of acceleration of positively charged particles in a magnetized low-pressure acoustoplasma in a magnetron diode.

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Session Classification: PS2 Poster Sesion

Track Classification: Poster Session