

**О многократном DD синтезе в межэлектродном пространстве
наносекундного вакуумного разряда**

**Multiple DD fusion events at interelectrode media of
nanosecond vacuum discharge**

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Abstract. We create and operate with a random interelectrode media of high power density using the low energy nanosecond vacuum discharges. Hard x-ray emission efficiency, generation of energetic ions (~1 MeV) and neutrons, trapping and release of fast ions and/or x-rays from interelectrode complex ensembles of cold micro grains with some micro plasmas are the subject of our study. The value of neutron yield from DD microfusion in interelectrode space is variable and amounts to $\sim 10^5$ - $10^7/4\pi$ per shot under ≈ 1 J of total energy stored to create all discharge processes. In a limiting case of total trapping of fast deuterium ions by the dense “dusty cloud” of clusters under partial hard x-rays diffusion and multiple fusion events inside, the pulsating neutrons yield have maximum values (regime of table-top complex plasma “microreactor”). Electrostatic mechanism of collective acceleration of ions trapped by potential wells is discussed briefly.