

## On contribution of a cluster target to the generation of DD neutrons in a nanosecond vacuum discharge

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***A compact scheme of inertial electrostatic confinement with reverse polarity based on nanosecond vacuum discharge (NVD) allows accelerating ions to the energies required for nuclear reactions. For example, deuterium ions are accelerated in the field of a virtual cathode (in a potential well) and when they head-on colliding with energies of ~100 keV, nuclear DD synthesis can take place. If a potential well in a vacuum discharge turns out to be filled with deuterium-containing clusters, then an additional DD synthesis channel "accelerated ion – cluster" appears. In this paper, the role of a cluster target in the generation of DD neutrons in NVD is discussed and investigated.***

*Keywords:* oscillatory confinement, nuclear fusion, cluster target, DD neutron yield.

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