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Thermal Neutron triggered nuclear „hotspots“: can they initiate D-D fusion?

The molecules of certain boranes like aminoborane or decaborane have an extraordinarily high hydrogen density. These particle densities exist without externally acting forces and are stable. The hydrogen nuclei may be replaced by deuterium. On the average a molecule of decaborane contains two atoms of 10B due to its natural abundance. This isotope has a thermal neutron capture x-section of 3840 b. The reaction produces two energetic ions (4He = 1.47 MeV and 7Li = 0.84 MeV) and might serve as a „hot-spot“ within a dense cloud of deuterons, triggered by thermal neutron capture.
According to classical collision laws, the supplied energy could be sufficient to initiate D-D fusion, An experiment whether this energy can be transferred to deuterium nuclei, will be described in this poster. The detection of the 480 keV gamma line from the excited Li-7 nucleus ensures the energy release within the borane molecule. In time correlation to this, D-D fusion in about a half of the cases would produce a neutron of 2.45 MeV. Detection of 2.45 MeV neutrons in coincidence with the 480 keV gamma rays would prove D-D fusion
The other half of the reactions would produce 1.01 MeV – tritons and thus be able to generate 14MeV neutrons by T-D fusion.

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