

Meson-catalyzed fusion in ultradense plasmas

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Negative muons in the MeV energy range are shown fully stopped in WDM and FIS/ICF plasmas on a psec time scale by including slowing down on partially degenerate electrons as well as on classical hydrogen isotope ions.

Atomic and molecular recombination on exotic and lowest available bound states are demonstrated.

The very existence of in situ exoatoms can then be probed through X-ray line Stark broadening.

The negligibility of meson sticking on alpha particles resulting from the DT-reaction is quantitatively asserted.

Meson catalysis of the fusion reactions is thus seen possible in short-lived plasma targets with rates orders of magnitude above usual cold deuterium ones.

The dipole exoatom orientation clearly favors the WDM option.

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