

Hall Thrusters used as dissociator for fusion application

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It is well known that negative ions used for neutral beam injection in thermonuclear fusion reactor are mostly produced by conversion of hot atoms on caesiated surface. In this contribution we are investigating the possibility to produce hot atom by molecular dissociation process in HT configuration, i.e. finding the best operative conditions to increase the molecular dissociation in place of ionization. The study is supported by Particle-in-Cell models of plasma-gas phases taking into account the vibrational kinetic of molecular hydrogen.

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