

Electro-magnetically driven shock and dissociated hydrogen target for stopping power measurement

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For ion-driven warm dense matter experiments and heavy ion fusion target design, the stopping power is an important issue. Stopping power depends on the chemical state of target material. Very few studies have been published for change of stopping power due to chemical effects[1]. Therefore, it is of interest to experimentally examine the change of stopping power of hydrogen due to transition from molecular state to dissociated atoms.

Electro-magnetic pulse device with 15 kV discharge voltage and with 1kPa initial molecular hydrogen gas p

References

[1] D. Semrad, Phys. Rev. A, 58, 5008 (1998).

[2] J. Hasegawa, et al., Nucl. Instrum. and Methods A, 606, 205-211 (2009).

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