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Proton Beam Production by Laser Ion Source with Hydride Target

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We have studied proton beam production from laser ion source using hydrogen rich target materials [1]. In general, gas based species are not suitable for laser ion source since formation of dense laser target is difficult. Plastic based material could be used as a target; however most of the plastics are almost transparent for conventional long wavelength laser light. In order to achieve reliable operation, we are testing some hydride targets using a sub nanosecond Q-switched YAG lasers which may suppress ions from the substrate material. The latest experimental results will be presented.

References

[1] M. Sekine, K. Kondo, M. Okamura, N. Hayashizaki, REVIEW OF SCIENTIFIC INSTRUMENTS 83, 02B318 (2012)