

Abstract Submitted  
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**Hollowing and filamentation of proton beams in high-intensity laser plasma interactions**<sup>1</sup> YADAB PAUDEL, Department of Physics, University of Nevada Reno, NV 89557, USA, N. RENARD-LE GALLOUDEC, Sandia National Laboratories, Livermore CA, V.L. KANTSYREV, A.S. SAFRONOVA, A.YA. FAENOV, I. SHRESTHA, G.C. OSBORNE, V.V. SHLYAPTSEVA, Y. SENTOKU, Department of Physics, University of Nevada Reno, NV 89557, USA — Protons and multicharged ions accelerated from the rear surface of thin foil targets driven by a high-intensity laser have been studied in short (fs) and long (ns) pulse mode. The protons/ions beam features recorded on CR39 show a central hollow beam structure due to the effect of the self-generated magnetic field on the protons. This hollow structure surrounded by radial structures can be explained by the effect of the electrostatic fields on the shape of the sheath profile at the target rear-surface.

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