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Study on Ion Current Density of Different Species in Laser Produced Plasma in a Solenoid Magnet

A solenoid magnetic field along the expanding laser-produced plasma is an essential technique of a laser ablation ion source, which can increase ion beam current at beam extraction by a factor of 2. Solenoid field is also practically important for beam operation to control beam current without changing the condition of laser ablation. However, the motion of laser-produced plasma influenced by the solenoid field is not fully understood. To better understand the effect of the solenoid field, ion current density along the solenoid including fringe field region is experimentally investigated from different species of different mass. The result of the experiment will be discussed.

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Yes

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