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# Generation of Proton and Carbon Ion Beam from Laser Ion Source Using Hydrocarbon Oil Target

The supply of high-flux proton and carbon ions are required for applications such as accelerator-driven neutron sources and heavy ion radiotherapy. So far, it is shown that a laser ion sources using the target of plastics made of hydrocarbons can provide protons and carbon ions. On the other hand, due to the damege of the target by laser irradiation, it is necessary to change the laser irradiation position every time, and the number of ion supply is limited to the area of the laser target. To solve the problem of target damage, we suggest a laser target in which the surface is continuously renewed by flowing hydrocarbon oil instead of solid hydrocarbon. In this study, we demonstrated the generation of protons and carbon ions using the target made of a hydrocarbon oil for a diffusion pump.

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