

Activities in heavy ion beam driven HEDP and IFE research at IMP, Lanzhou

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Recent progresses in high energy density physics and inertial confinement fusion in China are presented; primary emphases will be given to the research activities relevant to HEDP and IFE driven by heavy ion beam at IMP (Institute of Modern Physics), Lanzhou, China.

Radiography of statics objects with the fast extracted high energy carbon ion beam from CSR (the cooling storage ring) has been investigated, it is found that, after some mathematic treatments of the primary radiographs, very fine inner structures of the objects can be achieved. Experiments on the interaction of low energy heavy ion beam with plasma are being carried out at the 320kV highly charged ion platform. Stopping, charge effect and the transportation properties of low energy ion beams in gas plasma will be discussed. The progresses in simulations on heavy ion driven HED will be reviewed as well.

The proposed project, HIAF (High Intensity heavy-ion Accelerator Facility), as the 12th 5 year plan of China will be introduced. Exploring of HEDP and HIF will be one of the most important goals in this project. The preliminary design for the HEDP terminals of HIAF will be discussed.

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