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High intensity highly charged ion beams production and operation at IMP

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Charged by the existing operation facility HIRFL and HIAF one of the next generation heavy ion facilities under construction, high intensity high-charge state heavy ion beams production is in the high priority of research and development. For this purpose, several high performance ECR ion sources have been successively developed and put in routine operation. The recently developed FEER or the First 4th generation ECR ion source has employed the cutting-edge technologies for the development of a hybrid superconducting magnet using Nb₃Sn and NbTi superconductors. Operating at 28~45 GHz, FEER will give its first plasma and intense beam production. Other than ion sources development, new technologies development and new insights into high performance ECR ion source have led to increasingly ion beam intensities increase in both cw or pulsed modes. In this talk, high performance ion source development will be presented. A general review of the recent high intensity ion beam production progress at IMP and the routine operation for heavy ion accelerators will be made.

Footnotes

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