

Challenges and status of HIAF in China

High Intensity Heavy-ion Accelerator Facility (HIAF) is a giant accelerator facility aiming at high intensity primary and secondary beam preparation which is under construction in China. To achieve the challenging intensity goal, high intensity beam preparation remains a top priority of dynamics research. The first issue is how to accumulate in BRing with High injection gain(>56) and low beam loss(<5%). The second one is serious beam loss in early acceleration, when space charge effect, dynamic vacuum effect, collective instability dominate the intensity limitation. We developed a dedicated simulation platform CISP-GPU for coupling high intensity dynamics research. A series of stabilization efforts are performed to achieve the intensity goal, which needs higher performance for power supply, RF system and vacuum chamber. We have made breakthrough in this key components. Now more than 50% of the hardware series fabrication are completed. The series installation and joint commissioning will start in Feb. of this year. The civil construction and supporting facilities are in the closeout phase. They will accomplish in Apr. of this year. We will conduct installation and commission simultaneously in the coming years.

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