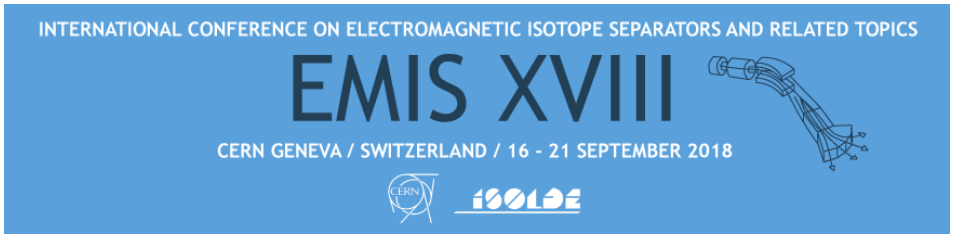

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BRIF: from the first proton beam to RIB production

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Various technologies for high current compact H- cyclotron have been developed since 1990s [1,2]. The energy of compact style machines was firstly elevated up to 100 MeV for Radioactive Ion Beam production[3,4]. The project, BRIF, Beijing Radioactive Ion-beam Facility was approved to start the construction in 2011, and the first proton beam was extracted from the 100 MeV compact cyclotron CYCIAE-100 on July 4, 2014[5]. This paper will present the progress on the BRIF after the first proton beam, including the cyclotron improvements for the stable operation and mA beam acceleration efforts, the RIB production and the implementation for mass resolution of 20000, and the future development etc.

[1]. Fan Mingwu, Zhang Tianjue, Initial Operation of CIAE Medically Used Cyclotron, [A] Proc. of the 1997 Particle Accelerator Conference, [C], Vacouver, 1997. 3834-3836
[2]. Bruce Milton et al., A 30 MeV H- Cyclotron for Isotope Production, Proc. of the 12th International Conference on Cyclotrons and Their Applications, Berlin, Germany
[3]. Tianjue Zhang et al., A New Project of Cyclotron Based Radioactive Ion Beam Facility. Proc. of 3rd APAC, 2004, Gyeongju, Korea
[4]. Tianjue Zhang, Zhenguo Li, Yinlong Lu, Progress on Construction of CYCIAE-100, Proc. of 19th International Conference on Cyclotrons and Their Applications, 2010, Lanzhou, China, Invited
[5]. The Project Team of BRIF, (Written by Tianjue Zhang and Jianjun Yang), The Beam Commissioning of BRIF and Future Cyclotron Development at CIAE, Nuclear Instruments and Methods in Physics Research B 376 (2016) 434–439, doi:10.1016/j.nimb.2016.01.022

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