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The Development of the Ion Source and Target for BRISOL

The Beijing Radioactive ion beam facility Isotope Separator On-Line (BRISOL) is a radioactive ion beam facility based on a 100 MeV cyclotron providing 200 μ A proton beam bombarding the thick target to produce radioactive nuclei, which are transferred into an ion source to produce singly charged ion beams. A FEBIAD ion source with MgO target are successful used to the first physics experiments, including the decay study of ^{20}Na with the energy of 110 keV and the elastic scattering study of ^{21}Na and ^{22}Na beams, post-accelerated by a 13 MV tandem. The refractory carbide targets such as SiC, LaC₂ and UC₂ are also developing for more radioactive beams. The first online test of SiC target has been completed recently, and radioactivity beams of ^{25}Al , ^{26}Al , and ^{28}Al were produced. The details of the development of BRISOL facility and the online experimental results will be presented in this paper.

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