ZeroDegree spectrometer at RIKEN RI Beam Factory
TOSHIYUKI KUBO, TETSUYA OHNISHI, HIROYUKI TAKEDA, NAOKI FUKUDA, DAISUKE KAMEDA, KENSAKE KUSAKA, ATSUSHI YOSHIDA, KOICHI YOSHIDA, MASAO OHTAKE, NAOHITO INABE, YOSHIYUKI YANAGISAWA, KANENOBU TANAKA, RIKEN Nishina Center — At RI Beam Factory (RIBF) [1] at RIKEN Nishina Center, a variety of fast rare isotope (RI) beams are produced using the BigRIPS in-flight separator [2] for studies of exotic nuclei. The beam line following BigRIPS is designed to work as a forward spectrometer named ZeroDegree, so that it can be used for reaction studies with RI beams. The ZeroDegree spectrometer consists of two dipoles and six superconducting quadrupole triplets, of which designs are essentially the same as those of BigRIPS. It analyzes and identifies projectile reaction residues, often in coincidence with gamma rays, and can be operated in different optics modes, depending on experimental requirements. The ZeroDegree spectrometer has recently been commissioned and used for a series of full-dress RI-beam experiments. Overview and status of the ZeroDegree spectrometer will be reported.


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