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MINIBALL - Status and Perspectives

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The high-resolution MINIBALL germanium detector array consists of 24 six-fold segmented, tapered, encapsulated high-purity germanium crystals. It was specially designed for low multiplicity experiments with low-intensity radioactive ion beams (RIB). Main features of the spectrometer are a very high photo peak efficiency for gamma or X-ray radiation and position sensitivity due to the electronic segmentation. The combination of these properties allows spectroscopic investigations in a wide energy range and to cope with huge Doppler effects. The Miniball array has been used in numerous Coulomb excitation and transfer reaction experiments with exotic RIBs with energies of 3 MeV/A produced at the ISOLDE facility. Recently the spectrometer was coupled to the super-conducting HIE-ISOLDE accelerator, which provides beams up to 5.5 MeV/A in a first stage. In the past, the array was successfully employed for studies with stable beams at various accelerator laboratories and RIBs provided at relativistic energies after fragmentation at GSI, Darmstadt.

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