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CAESAR-A high-efficiency scintillator array for gamma-ray spectroscopy

Saturday, 5 February 2011 10:45 (45 minutes)

Summary

The CAESium iodide ARray consists of 192 CsI(Na) scintillation detectors totaling 290kg of active material. This device is designed for in-beam gamma-ray spectroscopy utilizing fast beams of rare isotopes at NSCL/MSU. For 1MeV gamma rays the full-energy-peak efficiency is 35% and an energy resolution better than 10% FWHM after event-by-event Doppler reconstruction of the gamma rays emitted by nuclei moving with velocities of v/c ~ 0.3-0.4 was achieved. The spectral quality of CAESAR will be presented. Furthermore results obtained with LaBr detectors in test measurements will be shown.

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