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## Gamma Ray Spectroscopy: Some highlights from the past, present and future CORNELIUS BEAUSANG, University of Richmond

The early implementation stages of the current generation of large scale gamma-ray spectrometers, EUROGAM Phase 1 closely followed by Gammasphere Early Implementation, came online in the early 1990's. Last August the tenth anniversary of the full Gammasphere Array was celebrated. Large arrays of Compton suppressed Ge detectors, such as Gammasphere, Eurogam/Euroball/Jurosphere operated in both stand alone mode and, more recently, when coupled to highly selective and sensitive channel selection devices, such as the Fragment Mass Analyzer or RITU, or auxiliary detectors, such as Microball and Chico, have led to an unprecedented increase in our knowledge of the properties of the atomic nucleus when stressed by the application of high angular momentum, large proton or neutron imbalance, high temperatures etc. Gamma-ray spectroscopy is now routinely carried out at the limits of nuclear existence, either in terms of mass or in nuclei on, or beyond, the drip-lines. This talk will touch upon some of the classic results obtained with such arrays, will review the current state of the art in gamma-ray spectroscopy and consider some potentials for the future of the field with new arrays such as GRETA in the US and AGATA in Europe. This work is supported by the US Department of Energy under grant numbers DE-FG52-06NA26206 and DE-FG02-05ER41379.