

Fission Fragment Spectroscopy



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The study of gamma rays emitted from fragments produced in fission has produced a wealth of information on the structure of neutron-rich nuclei. This information has traditionally come from the construction of level schemes using gamma-ray coincidence data, a method which has been particularly fruitful when applied to very large arrays of high-purity Ge detectors. More recently, methods have been developed that allow experimenters to go beyond the determination of level schemes and which allow the measurement of lifetimes and magnetic moments using these large fission data sets. This paper will discuss some of the recent results in this area and the physics that these new techniques elucidate; in particular, the evolution of shape and collective magnetic properties in the $A \sim 100$ region. New results from the Xe fission fragments will also be discussed. The paper will also contain an overview of the fission fragment spectrometer STEFF, recently constructed at The University of Manchester, and which will be used in conjunction with large arrays of gamma-ray detectors.