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Novel excitation modes of nuclei using INGA: Results and Opportunities

Many important properties of nuclei can be inferred from the investigation of their excited states at varying angular momentum. The Indian National Gamma Array (INGA) campaigns at the three accelerator facilities within India have contributed significantly in recent years to such studies. INGA was set up at as a part of a collaboration between BARC, IUAC, SINP, TIFR, UGC-CSR-KC, VECC and different Universities. A long experimental campaign of INGA coupled to a digital data acquisition system has been completed at TIFR-BARC Pelletron Linac Facility at TIFR, Mumbai. About 45 experiments based on proposals from different groups have been completed during the experimental campaign of INGA at TIFR. Selected results related to the novel excitation modes of atomic nuclei from this array will be presented. Finally, we will discuss the plan to augment the INGA program by strengthening the gamma detection facilities and adding new ancillary detector systems.

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