## STATUS OF EUROBALL IV AND PRELIMINARY PHYSICS RESULTS

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The study of nuclear structure at the limits of angular momentum and isospin is only possible with very selective and powerful detection setups. The EUROBALL $\gamma$-ray spectrometer and the many associated ancillary detectors have been designed for that purpose. In its fourth phase, EUROBALL includes an inner BGO ball which works, with the Ge detectors and their suppression shields, like a multiplicity filter and a calorimeter and improves the selectivity of the device. EUROBALL IV is in operation at IReS-Strasbourg since june 1999. More than 20 experiments have already been performed with this very efficient instrument and preliminary results of some of them will be presented in this talk.



## NUCLEAR BAND STRUCTURE AT VERY HIGH SPIN

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The description of nuclear high spin bands in terms of the configuration constrained cranked Nilsson-Strutinsky (CNS) approach will be discussed. Pairing is neglected in these calculations, making it possible to get a simple understanding of the different configurations. Examples from different mass regions show very good agreement between calculations and experiment in many cases making it possible to assign detailed configurations. In this assignment, the fact that the configurations have well-defined maximum spin values is very important, independently of if the bands really terminate or not. Going to lower spin values, the detailed understanding at high spin should be very helpful when trying to understand the structure in the regime where different configurations are more mixed.