

## Prompt gamma ray-spectroscopy of N=50 fission fragments

Studies in the region around  $^{78}\text{Ni}$  are essential to test the interactions used in shell-model calculations to see if any new physics manifests itself far from stability. It's necessary to investigate the structure of nuclei in the A=80-90 regions via prompt gamma-ray spectroscopy, following the proton induced fission of thick  $^{238}\text{U}$  target, using the Jurogam II array located in Jyväskylä in Finland. The aim of this part of experiment is to investigate particle-particle nuclei outside the presumed doubly magic nucleus  $^{78}\text{Ni}$ , to see if can be used as an inert core and to gain information on single-particle energies which are poorly known. The new results obtained in three nuclei located around the N=50 gap shell:  $^{84}\text{Se}$ ,  $^{83}\text{As}$  and  $^{88}\text{Br}$  will be reported. To assign spin and parity values, a systematic study of N=50 isotones and shell-model calculations have been performed. Some interactions are in agreement with experimental results for yrast states at low spin. At higher energy particle-hole core excitations appear and these are outside the valence space used. Thus, more sophisticated interactions are required.

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