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Title: **Structure studies of heavy nuclei using recoil decay tagging at JYFL**
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The structure of heavy nuclei has been studied in several extensive campaigns at JYFL using the Recoil Decay Tagging (RDT) method. In most experiments, different versions of the Jurosphere array were used for detection of prompt gamma-rays. Jurosphere consists of 25 Compton-suppressed Ge-detectors and has an efficiency of 1.5–1.8 % at at 1.3 MeV. The produced evaporation residues were separated and identified using the gas-filled recoil separator RITU.

In a series of experiments using ^{48}Ca beams, the main results were the observation of the ground state bands of ^{252,254}No [1]. These studies have very recently been extended through the measurement of recoil-tagged conversion electrons from ^{254,253}No [2].

Another field of interest has been the study of shape coexistence in very neutron deficient isotopes in the Pb-Po region. Here, the closed proton shell favours spherical shapes while close to the neutron mid-shell, prolate structures intrude to low excitation energies. These have been associated with more than two protons being excited across the Z = 82 gap [3]. In our experiments, prolate inruder bands have been observed in ^{176}Hg and in ^{182,184}Pb. In Pb isotopes, low-lying oblate states have been associated with *2p-2h* excitations. The ground states of Po isotopes in this region have also been found to have a strong *4p-2h* component [4]. These basic observations are strongly supported by (and partly arise from) alpha decay studies in this region [5]. Some new results from our studies concerning neutron-deficient Hg, Pb, and Po isotopes will be discussed. Generally speaking, the observations concerning shape coexistence in this region are well described by theoretical mean field calculations [3, 6]

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References

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Invited talk.