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Title: **The structure of heavy octupole and superheavy quadrupole deformed nuclei.**

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This contribution will be divided into two parts. In the first part I will describe experimental attempts to determine the sign of the electric dipole moment (relative to the electric octupole moment) in the octupole deformed nucleus ^{226}Ra. Sensitivity to this quantity is observed in the measured yields of γ-ray transitions following very low energy Coulomb excitation.

In the second part I will report on recent progress in the development of new spectroscopic techniques that promise to elucidate the structure of deformed superheavy nuclei in the region of ^{254}No. The $4^+ \rightarrow 2^+$ transition in ^{254}No has been identified using recoil-tagged conversion electron spectroscopy. This technique has been applied to the measurement of the strongly converted rotational bands in ^{253}No.

Both experimental projects have been carried out by a collaboration between the University of Liverpool and the University of Jyväskylä at the Jyväskylä cyclotron laboratory.

Invited talk.