# RECENT PROGRESS IN ELECTRON SPECTROSCOPY AT JYFL AND HIE-ISOLDE

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On behalf of the SAGE and SPEDE collaborations

In-beam spectroscopic techniques have long been an invaluable tool in interpreting the complex structure of the nucleus. The main workhorses of these studies have been the various γ-ray spectrometers used in many research laboratories. Especially in heavy nuclei, internal conversion competes with γ-ray emission. Also in the Pb region, where shape coexistence is common, there can be many E0 transitions that only proceed via internal conversion. The ability to study both γ rays and conversion electrons simultaneously is a great boon to further the understanding of nuclear structure. Two such combined γ-ray and conversion-electron spectrometers, namely SAGE [1] at JYFL, and SPEDE [2] and MINIBALL [3] at HIE-ISOLDE will be presented.

The SAGE spectrometer operates in the Accelerator Laboratory of the University of Jyväskylä and combines the JUROGAM II array [4] with a highly segmented silicon detector and a solenoid electron transfer system. This is coupled to the RITU gas-filled separator [5] and the GREAT focal plane spectrometer [6] allowing for Recoil-Decay tagging studies. SAGE has mainly been employed in the transfermium and light lead region. Here will be presented some results from recent experiments on $^{250}$Fm and $^{188}$Pb.

The SPEDE spectrometer integrates a highly segmented silicon detector into the MINIBALL array at the HIE-ISOLDE facility at CERN. The primary aim of SPEDE is to study octupole collectivity [7] and shape coexistence [8] in Coulomb excitation reactions using radioactive ion beams. Here will be presented some results from the recent commissioning tests.

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