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Experiments with GABRIELA detector system

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For several years, on SHELS (Separator for Heavy Elements Spectroscopy) was carried out more dozen experiments, aimed to investigation of characteristics of heavy elements and discover new isotopes. Perfect data acquisition system GABRIELA consists of a 10x10 cm² DSSSD, 128x128 strips and 8 plats a 6x5cm² DSSD, 32x32 strips. It detects 70% alpha particles and 90% gamma-quanta, by spontaneous fission, and also accurately to separate events by time (1μs). Complex out 5 coaxial Ge-detectors has good efficiency of gamma-quanta registration. The mixing of α- decay with γ- and β-decay spectroscopy allows to investigate single particle states behavior, as well as the structure of little known elements in the Z = 100-104 and N = 152-162 region.

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