

Student project work

Gamma-Ray Spectroscopy Measurements of Containers with Low-Activity Radioactive Waste



Picture: Waste box on a turn table on the right, in front of the HPGe detector on the left

Project description:

The accelerator facility The Svedberg Laboratory (TSL) in Uppsala is currently being decommissioned. This work leads to a large amount of waste that contains small amounts of radioactivity. Before the waste is being disposed, the amount of radioactivity must be measured and shown to be below the limits set by the radiation authorities. The measurements will be done using a gamma-ray spectroscopy setup with an HPGe detector and the ISOTOPIC Gamma Spectrometry Waste Assay Measurement system from ORTEC.

Identified tasks for the students are to:

1. Learn the basics of the ISOTOPIC system.
2. Take part in the first measurements at TSL of low-activity waste boxes with the ISOTOPIC system.
3. Evaluate the results of the measurements.

Supervision:

Supervisor: Johan Nyberg, Department of Physics and Astronomy, Uppsala University, 070-4250504, johan.nyberg@physics.uu.se

The work will be done at TSL in Uppsala. Office space will be available.

Supervision time: 2 hours/week

No of students: 2

The report need to be approved by the supervisor before it is published.