# of Methods for Analysis of Radioxenon Beta-Gamma Coincidence Spectra Using MIKS Data

Wednesday, 21 June 2023 11:44 (1 minute)

There are several methods for analysis of radioxenon beta-gamma coincidence spectra. The most important approaches to estimating the activity using beta-gamma coincidence spectra are the Net Count Calculation (NCC) and the Standard Spectrum Method (XeMat and ROI simultaneous fitting method). Within these approaches, algorithms differ in many ways and can provide different estimates of the activity. A comparison of different methods and algorithms has been carried out in this study. Activity and MDC calculations using different methods were performed and the results were compared. Evaluations have been made using real data from the MIKS. It has been shown that if the count rate is high, all methods are consistent and similar, but if the statistics are poor, simultaneous fitting and matrix algorithms using a priori information are preferable.

E-mail

sidorov785@mail.ru

Oral preference format

Promotional text

This study aims to improve radioxenon beta-gamma coincidence spectra processing methods.

Primary authors: Ms TIMOFEEV, Dobrynya (All-Russia Research Institute of Automatics named after N.L. Dukhov (VNIIA)); Mr ORLOV, Maksim (All-Russia Research Institute of Automatics named after N.L. Dukhov (VNIIA)); SIDOROV, Nikolay (Dukhov Automatics Research Institute (VNIIA))

Presenter: SIDOROV, Nikolay (Dukhov Automatics Research Institute (VNIIA))

Session Classification: Lightning talks: P2.2, P3.2, P3.6

Track Classification: Theme 3. Monitoring and On-Site Inspection Technologies and Techniques: T3.6 Analysis of Radionuclide Monitoring Data