

IN SITU GAMMA SPECTROSCOPY DETERMINATION OF RADIOACTIVE CONCENTRATION IN SOILS

Thursday, October 15, 2020 6:55 PM (20 minutes)

The results of development of new method for in situ gamma spectroscopy determination of radioactive soil contamination are presented. The novelty of the method developed is that no priori assumptions about the distribution of nuclides in the soil and no soil sampling are needed. Only in situ spectra measured over the territory of interest are used.

The method is based on attenuation factor value determination from shielded gamma source spectrum directly. The only one peak in the spectrum is enough to calculate the shield attenuation value. No priori information about the shield or shield material sampling is used. The gamma spectrum of the unshielded source is not used too.

The results of in situ determination of artificial and natural radionuclides concentrations in different soils, including the soils with Chernobyl contamination, are presented.

Primary authors: Dr EGOROV , N.Y. (National Research Nuclear University "MEPhI", Moscow, Russia); Prof. GUROV, Yu.B. (National Research Nuclear University "MEPhI", Moscow, Russia, Joint Institute for Nuclear Research, Dubna, Russia); Dr DROVNIKOV , V.V. (National Research Nuclear University "MEPhI", Moscow, Russia); Dr ZHIVUN , V.M. (National Research Nuclear University "MEPhI", Moscow, Russia); Mr KADUSHKIN , A.V. (National Research Nuclear University "MEPhI", Moscow, Russia)

Presenter: Dr EGOROV , N.Y. (National Research Nuclear University "MEPhI", Moscow, Russia)

Session Classification: Poster session 3 (part 3)

Track Classification: Section 3. Modern nuclear physics methods and technologies.