Contribution ID: **445** Type: **Oral report**

Investigation of mass-energy distributions of fragments formed in the 32S+232Th→264Sg reaction at energies bellow and near the Coulomb barrier

Thursday 15 October 2020 15:20 (25 minutes)

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The present work is focused on exploring the features of fission of ^{264}Sg formed in the reaction ^{32}S+^{232}Th at energies near and below the Coulomb barrier. The detailed study of properties of Sg fission will enrich the information on fission in the transition region of transactinide nuclei. The experiment was carried out at the K-130 accelerator of the University of Jyväskylä (Finland) at energies of ^{32}S ions of 165, 181 и 200 MeV. The mass-energy distributions of the reaction fragments were measured using the double-arm time-of-flight spectrometer CORSET. As a result of the analysis of experimental data, the dependence of width of mass-energy distributions on the excitation energy was obtained. In the symmetric mass region (A/2±20), the contribution of the quasifission process was found at energies both below and above the Coulomb barrier.

This work was supported by a joint grant from the Indian Department of Science and Technology and the Russian Foundation for Basic Research (project No. 19-52-45023).

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Session Classification: Section 2. Experimental and theoretical studies of nuclear reactions

Track Classification: Section 2. Experimental and theoretical studies of nuclear reactions.