## The 7th international conference on particle physics and astrophysics



Contribution ID : 208

Type : Oral talk

## Double-hit experimental approach in studies of the multibody decays of heavy nuclei.

Wednesday, 23 October 2024 10:45 (15)

In our previous publications [1–3], a very specific effect, unknown in the past, was discussed, namely a breakup of the fission fragment while it passes through a solid-state foil. The fraction of the fragments which undergo the break-up is supposed to be born in the shape isomer states. The bulk of the results were obtained in the frame of the so-called missing mass experimental method when only one of two partners of the breakup is detected by the spectrometer. The difference between the total mass of the detected fragments and the mass of the mother system serves a sign of at least ternary decay. Alternative, so called" double-hit" approach lets obtain more direct information about the process. By definition, the double-hit registration approach means that two fragments were detected in the same PIN diode during one registration gate of 200 ns length. If a minimum time interval between their time stamps is less than 30 ns a pile-up of the signals take place. Restoring original signals from pile-up is discussed.

**Primary author(s) :** Mr. KAMANIN, D.V. (JINR); Mr. PYATKOV, Yu.V. (JINR, MEPHI); Mr. ZHUCHKO, V.E. (JINR); Mrs. GORYAINOVA, Z.I. (JINR); Ms. KUZNETSOVA, E.A. (JINR); Mr. SEREDA, Yu. M. (JINR); Mr. SOLODOV, A.N. (JINR); Mr. STREKALOVSKY, O.V. (JINR); Ms. ZHUKOVA, A.O. (JINR)

**Presenter(s):** Mrs. GORYAINOVA, Z.I. (JINR)

Session Classification : Nuclear

Track Classification : Nuclear physics