

BINARY BRAKE-UP OF FISSION FRAGMENTS AT CROSSING OF METAL FOILS

Wednesday, April 17, 2019 2:00 PM (15 minutes)

In our previous publications [1–3] we discussed new original effect appeared at crossing of the metal foils by fission fragments (FFs). In the series of recent experiments we have compared the mass of the FF before (M_{tt}) and after (M_{te}) it passes the foil event by event. In the light of the obtained results, a FF from conventional binary fission is supposed to be born in the shape isomer state which looks like a di-nuclear system consisting of the a magic core and lighter cluster. Comparison of the correlation mass distributions M_{tt} - M_{te} for different metal foils is presented aimed at testing possible models of the effect.

References

1. Yu.V. Pyatkov et al., Proceedings of the 22th International Seminar on Interaction of Neutrons with Nuclei, Dubna, Russia, 27–30 May 2014. Dubna 2015, p. 83.
2. Yu.V. Pyatkov et al., International Symposium on Exotic Nuclei “EXON-2014”, Kalaninograd, Russia, 08–13 September 2014. Conference proceedings, Editors: Yu. E. Penionzhkevich, and Yu. G. Sobolev. Published by World Scientific Publishing Co. Pte. Ltd., 2015. p. 383.
3. Yu. V. Pyatkov et al., Int. Symposium on Exotic Nuclei “EXON-2016”, Kazan, Russia, 04-10 September 2016. Conference proceedings, Editors: Yu. E. Penionzhkevich, and Yu. G. Sobolev. Published by World Scientific Publishing Co. Pte. Ltd., 2017. p. 284

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Session Classification: Nuclear Physics

Track Classification: Nuclear Physics