

Strong indications of true quaternary fission of $^{252}\text{Cf}(\text{sf})$

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Abstract In our previous publications [1, 2] we discussed possible physical scenario standing behind rectangular-like structures in the fission fragments mass-correlation distributions from $^{252}\text{Cf}(\text{sf})$ and $^{235}\text{U}(\text{nth}, \text{f})$. The rectangle is bounded by the known magic nuclei such as ^{68}Ni , ^{84}Se and others. The fission events aggregated in the rectangle show extremely low total kinetic energies. Previously only decay mode with two Ni clusters in the exit channel was discussed. A more complete analysis are presented which gives additional arguments in favor of true quaternary fission of $^{252}\text{Cf}(\text{sf})$.

References

1. D.V. Kamanin 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. 243–248.
2. Yu. V. Pyatkov et al., Journal of Physics: Conference Series, V. 863 (2017) 012046.

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