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ANALYSIS OF SOME MODES OF COLLINEAR CLUSTER TRI-PARTITION (CCT)

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In our previous publications [1–4] we discussed various manifestations of a new decay channel of the low excited heavy nuclei called collinear cluster tri-partition (CCT). In the frame of the essentially modified experimental method, additional linear structures corresponding to the relations M1 + M2 = const and M1 − M2 = const for the masses M1 and M2 of the fission fragments (FFs) from 252Cf(sf) detected in the opposite spectrometer arms form the rhombic-like configurations with the vertices corresponding to the magic nuclei. The structures are statistically reliable, they are conditioned by a pronounced and complex correlation between the masses of the FFs measured independently. Possible physical scenario standing behind the structures are discussed.

1. Yu.V. Pyatkov et al., Eur. Phys. J. A. 45, 29 (2010).
2. Yu.V. Pyatkov et al., Eur. Phys. J. A. 48, 94 (2012).
3. Yu.V. Pyatkov et al., Phys. Rev. C. 96, 064606 (2017).
4. Yu.V. Pyatkov et al., Eurasian Journal of Physics and Functional Materials, 4, 13 (2020).

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