

THEORETICAL ANALYSIS OF DECAY CHAINS OF THE ELEMENT 115

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There is a continuing progress in collecting data on the properties of heaviest nuclei. Recently, a rich data has been obtained on the decay chains of the element 115 [1,2]. For example, the Dubna experimental studies [1] resulted in the observation of 28 decay chains of the odd-odd isotope $^{288}115$. In the GSI experiment [2], 22 decay chains of the nucleus $^{288}115$ have been observed.

The objective of the present paper is a theoretical description of these chains.

The α -transition energies Q_a^t and α -decay half-lives T_α are calculated. Two models, which well reproduce masses of heaviest nuclei, are used for the description of Q_a^t and the phenomenological model of Ref, [3] is taken to describe half-lives T_α . Rather good, realistic descriptions of both quantities are obtained.

[1] Yu.Ts.Oganessian et al., Phys. Rev C **87**, 014302 (2013).

[2] D. Rudolph et al., Phys. Rev Lett. (2013), in press.

[3] A. Parkhomenko and A. Sobiczewski, Acta Phys. Pol. B **36**, 3095 (2005).