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Level densities and shell corrections of superheavy nuclei

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Abstract

© Published under licence by IOP Publishing Ltd. The intrinsic level densities of superheavy nuclei in the α -decay chains of 296;298;300120 nuclei are calculated using the single-particle spectra obtained with the modified two-center shell model. The level density parameters are extracted and compared with their phenomenological values used in the calculations of the survival of excited heavy nuclei. The dependences of the level density parameters on the mass and charge numbers as well as on the ground-state shell corrections are studied.

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