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Correlation between fission barrier heights and half-lives of super heavy elements

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Abstract

Spontaneous fission half – lives of heavy elements are analyzed. A formula with four parameters for spontaneous fission(SF) half – lives [1] based on the Viola – Seaborg formula is used. The calculated SF half – lives are in good agreement with the corresponding experimental half – lives. The spontaneous fission half – lives of the isotopes of $Z=104-110$ (Rf – Ds) are calculated which are consistent with the available experimental data. Since the formula involves only mass number (A) and charge (Z), it can be used to predict the SF half – lives of nuclei far away from the stability line where their masses may not even be known.