

EMPIRICAL RELATIONS FOR  $\alpha$ -DECAY  
HALF-LIVES

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S u m m a r y

The empirical relations for the half-lives of  $\alpha$ -transitions between the ground states of parent and daughter nuclei with even/odd numbers of protons/neutrons are presented. Experimental data for half-lives of 344  $\alpha$ -radioactive isotopes are analyzed. The corresponding parameters for the whole collection of nuclei and separately for heavy (heavier than  $^{208}\text{Pb}$ ) and light nuclei are determined. The calculations are performed with regard for both the effect of screening of a nucleus by electrons and the nonzero orbital moment of an  $\alpha$ -particle for  $\alpha$ -decays of even-odd, odd-even, and odd-odd nuclei.