

ANOMALIES IN INTERNAL CONVERSION
COEFFICIENTS FOR HINDERED
ROTATIONAL γ -TRANSITIONS

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S u m m a r y

New data concerning the penetration effect in the $M1$ component of hindered rotational γ -transitions have been obtained. The effect is caused by different selection rules for γ -emission and intranuclear conversion matrix elements. The magnitude of penetration parameter for the $M1$ -component of the 129-keV γ -transition in ^{191}Ir nucleus is determined for the first time. The results obtained for similar transitions in ^{163}Er , ^{165}Er , and ^{177}Hf nuclei are also reported. By comparing the experimental penetration matrix elements with those calculated from the Nilsson model, the following renormalization coefficients are found for the gyromagnetic ratios for the spin-multipole interaction in $M1$ -conversion transitions: $g_s(M1)/g_s^{\text{free}}(p) = 0.574 \pm 0.023$ and $g_s(M1)/g_s^{\text{free}}(n) = 0.59 \pm 0.07$.