3) For M/L ratios, the agreement between the theoretical and experimental values is better than 5%, which is well within our assigned experimental error.

4. For $Z=76$, Bhalla's, Pauli's and Hager-Seltzer's tables compare with the experimental values. All agree within 2%.

5) The experimental M/L ratios are 1.5—2 times smaller than Rose's theoretical values.

When total coefficients are needed, our results indicate that for $E2$ transitions one can account for $N+O+\cdots$ shells using the approximate relation

$$\alpha_{(N+O+\ldots)} = \alpha\,(0.26 \pm 0.04) \cdot M.$$

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E11 E2 Branching Ratios of Even-Even Deformed Nuclei

M. STOJANOVIĆ, M. MLAĐENOVIĆ, V. AJDAČIĆ and I. SLAVIĆ, *Institute "Boris Kidrič", Beograd*

The present study examined branching ratios for reduced $E2$ transition probabilities for even-even deformed nuclei (^{152}Sm, ^{154}Gd, ^{160}Dy, ^{182}W, ^{186}Os, ^{188}Os and ^{228}Th) for 2_2^+ and 3^+ levels going to 0^+, 2_1^+ and 4_1^+ levels. In the case of ^{160}Dy and ^{228}Th special attention was paid to resolutions of gamma spectrometers in order to separate gamma peaks of 962 keV and 966 keV (^{160}Dy), and 966 keV from 960 keV (^{228}Th). We used a Ge(Li) detector of 14 cm^3 with energy resolution of 3.5 keV for ^{60}Co gamma peaks. Data for ^{186}Os and ^{188}Os vary considerably from author to author. In this measurement we employed two different Ge(Li) detectors whose efficiencies were determined in two different ways (using simple cascade transitions and by absolute gamma sources). Experimental transition probabilities obtained with the two detectors agreed within 3—4%. Branching ratios for the above isotopes are given in the Table.

In most cases conversion coefficients (α_K) were determined to define the $M1$ admixtures in $E2$ transitions.

We compared our results with the theoretical predictions of Preston-Kiang[1], Belyak-Zaikin[2], Faessler et al[3], Davydov et al[4], and Bès et al[5]. None reproduced the complete set of measured data. The parameters Z_2 calculated from the branching ratios for the same nucleus differ even by as much as 50%.

Nucleus	$\frac{B(E2;\ 2_2 \to 0)}{B(E2;\ 2_2 \to 2_1)}$	$\frac{B(E2;\ 3 \to 2_1)}{B(E2;\ 3 \to 4_1)}$
^{152}Sm	0.46 ± 0.03	0.91 ± 0.07
^{154}Gd	0.49 ± 0.03	0.98 ± 0.10
^{160}Dy	0.54 ± 0.05	1.21 ± 0.17
^{182}W	0.51 ± 0.03	1.76 ± 0.14
^{186}Os	0.41 ± 0.02	—
^{188}Os	0.34 ± 0.02	—
^{228}Th	0.47 ± 0.04	—

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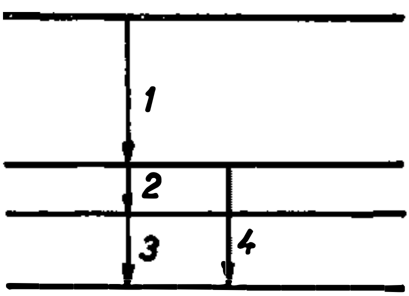
E12 The K/L_3, M/L and (N+O+ · · ·)/M Ratios for 239 keV M1 Transition in ^{212}Bi

D. KRPIĆ, R. STEPIĆ, M. BOGDANOVIĆ and M. MLAĐENOVIĆ, *Institute "Boris Kidrič", Beograd*

E13 The Summing Effect Correction of Correlation Coefficients

J. V. MILANOVIĆ, A. H. KUKOČ and Đ. M. KRMPOTIĆ, *Institute "Boris Kidrič" and Faculty of Science, Beograd*

The summing effect may disturb some correlation measurements of sources with complex decay schemes. Measured correlation consists then of two or more correlations with different coefficients. An illustrative case is represented in Fig. 1.



Due to the summing of quanta γ_2 and γ_3 in a detector adjusted for the registration of γ_4, the measured correlation W_{meas} represents the superposition of two correlations: a double correlation $W(\gamma_1-\gamma_4)$ (which is to be measured), and a triple correlation $W[\gamma_1-(\gamma_2+\gamma_3)]$ (the angle $\theta(2, 3)$ being zero, whereas $\theta(1, 2)=\theta(3, 1)$). If this contribution cannot be neglected or avoided by experimental sophistication, it is necessary to