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

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E13 The Summing Effect Correction of Correlation Coefficients

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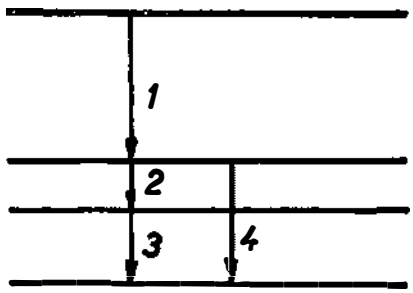
The summing effect may disturb some correlation measurements of sources with complex decay schemes. Measured correlation consists then of two or more correlations with different coefficients. An illustrative case is represented in Fig. 1.



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

correct the measured values of the correlation coefficients. The purpose of this paper is to suggest a quantitative method for this correction.

The triplet correlation contribution depends on the relative gamma ray intensities of the cascades and the detector's geometry. If a and b stand for relative gamma ray intensities of the cross-over and cascade, respectively, and ε_2, ε_3 and ε_4 represent the respective photoefficiencies for the detection of γ_2, γ_3 and γ_4 under the given experimental conditions, then the theoretical values of the correlation coefficients of the correlation $W(\gamma_1-\gamma_4)$ may be expressed as:

$$A_k(1,4)=C\frac{A_k^{\text{meas.}}}{Q_k^{(1)}Q_k^{(4)}}-C_k; \quad k=2,4.$$

Here $A_k^{\text{meas.}}$ are the measured correlation coefficients and the $Q_k^{(i)}$ are finite solid angle corrections. The constants C and C_k are:

$$C=1+\frac{b\varepsilon_2\varepsilon_3\Omega_4}{a\Omega_4},$$

and

$$C_k=\frac{b\varepsilon_2\varepsilon_3\Omega_4}{a\Omega_4}A_k(1,2+3); \quad k=2,4.$$

$A_k(k, 2+3)$, $k=2, 4$, are the theoretical values of the correlation coefficients for triple correlation $W[\gamma_1-(\gamma_2+\gamma_3)]$.

These equations were applied to the correction of the correlation coefficients in correlation $\gamma_{308}-\gamma_{613}$ in ^{191}Pt. The contributing triple correlation is $\gamma_{308}-(\gamma_{296}+\gamma_{316})$. The values of the coefficients C and C_k, $k=2,4$ were calculated for source to detector distances of 5.7 and 10 cm and for the $1.5''\times 2''$ NaI(Tl) crystal. The contribution of the triple correlation was about 10%.

E14 Internal Conversion Experiments with ^{239}Np Sources Prepared as Oxide and Hydroxide

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In order to find out to what extent the chemical state of a radioactive isotope influences the internal conversion process, we have studied the part of the internal conversion spectrum of the transition of 7.85 keV in ^{239}Pu including lines N, O, P and higher electron valency shells. The measurements were made with a double-focussing spectrometer with high resolution and a GM counter with a thin window to detect electrons of energies exceeding 4 keV. The radioactive sources were prepared electrolytically in two chemical states: oxide and hydroxide. Preliminary results of our measurements are as follows: