

PHOTONEUTRON MULTIPLICITIES AND PHOTOABSORPTION INTEGRATED CROSS SECTION VALUES

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The results of joint analysis and correction of partial photoneutron reactions (g,n) and (g,2n) cross sections for 19 nuclei ⁵¹V, ⁷⁵As, ⁸⁹Y, ⁹⁰Zr, ¹¹⁵In, ^{116,117,118,120,124}Sn, ¹²⁷I, ¹³³Cs, ¹⁵⁹Tb, ¹⁶⁵Ho, ¹⁸¹Ta, ¹⁹⁷Au, ²⁰⁸Pb, ²³²Th, ²³⁸U obtained using quasimonoenergetic photons from relativistic positron annihilation in flight at Livermore (USA) and Saclay (France) /1 - 3/ were used for study of balance between photoabsorption integrated cross section values and dipole sum rule estimations 60NZ/A. That correction was forced by incorrect neutron multiplicity sorting procedure used at Saclay. It means that correspondent “false” part of (g,n) reaction cross section was recalculated and transmitted back into (g,2n) reaction cross section. The main result of such kind correction was that Saclay s(g,2n) corrected became significantly larger. Because $s(g,abs) = s(g,xn) - s(g,2n) + s(g,p)$ it must become noticeably (10 – 30%) smaller. Therefore large extra integrated cross section values $sint(g,abs) \sim 1.3 - 1.5$ 60NZ/A (MeV x mb) obtained in many Saclay experiments /for example, 4 - 7/ became doubtfully being all due to effective mass of nucleon changing because of the effect of exchange forces. Corrected photoabsorption integrated cross sections are presented for all 19 nuclei studied.

President of Russia grant N SS-1619.2003.2 and RBFR grant N 03-07-90431.

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