

DETERMINATION OF AVERAGE RESONANCE
PARAMETERS FROM ELASTIC SCATTERING
CROSS-SECTIONS OF LOW-ENERGY
NEUTRONS BY EVEN-EVEN NUCLEI

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S u m m a r y

A new method for the determination of average resonance parameters by analyzing the differential cross-sections of keV-neutrons elastically scattered by even-even nuclei has been developed on the basis of the relations established between the coefficients ω_1 and ω_2 of the expansion of the differential cross-sections in Legendre polynomials and the diagonal elements η_0 and η_1 of the averaged S -matrix. For illustration, a complete set of average resonance parameters S_0 , S_1 , R'_0 , R'_1 , $S_{1,1/2}$, and $S_{1,3/2}$ for a ^{116}Sn nucleus has been obtained and their analysis has been performed.