

Investigations of Low-Energy P-Resonances in (n, γ) Reaction on ^{93}Nb Nucleus

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Investigations of the angular distributions of reaction products, as shown in reference [1], allows one to determine the type of resonance (s, p, d, f,...). There are very few experimental works on the measurement of angular distributions in the (n, γ) reaction. Experiments on the evaluation of the partial neutron widths on ^{113}Cd and ^{117}Sn nuclei were carried out at FLNP JINR Dubna in the 90s years of the last century [2]. In the capture process of resonant neutrons, angular distributions and contribution of the interference of s- and p-wave amplitudes were analyzed using formulas for nuclei with spin $\frac{1}{2}$ given in [3,4].

Our work presents the first results of the study of low-lying p-wave resonances in the (n, γ) reaction on ^{93}Nb nucleus, obtained at the pulsed neutron source IREN from FLNP [5].

Double differential cross sections were processed applying Blatt - Biedenharn approach with coefficients of angular distribution calculated for ^{93}Nb nucleus with a 9/2 spin value. Further, from the analysis of angular distribution an estimation of partial neutron widths was also obtained.

REFERENCES

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