

Compilation of Resonance Parameters in Reactions with Charged Particles

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Low-lying resonances in reactions with neutrons and charged particles play an important role in estimation of the astrophysical reaction rates. A compilation of parameters of the resonances in reactions with protons, deuterons, ^3H , ^3He and α -particles is published now as volumes I/19A1 ($Z \leq 19$) and I/19A2 ($Z \geq 20$) by Springer in Landoldt-Boernstein Library New Series Group I, Editor H.Schopper. Parameters of all known resonances are supplemented by separate tables with branching ratios of γ -ray transitions, reduced inelastic scattering widths and some other structural characteristics.

Nearly constant relative shifts of 5-10 keV in positions of proton resonances in different measurements were found in data for many nuclei with $Z > 20$. This could prevent the study of spacing distributions of highly excited states where grouping effects similar to that in neutron resonances were observed earlier. For the absolute normalization of the energies of compound nuclei derived from the high-resolution measurements the accurately determined energies in γ -ray spectra from the individual resonances are needed. A list of requested measurements will be presented.