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ENDF-FORMAT MODIFICATION PROPOSALS FOR CROSS-SECTION STRUCTURE DATA REPRESENTATION IN THE UNRESOLVED RESONANCE REGION.

Some questions concerning evaluated neutron data representation in the ENDF-format are considered. Disadvantages of current format version for unresolved resonance region data are pointed. Proposals for IT modification are given.

ISOMETRIC CROSS-SECTION RATIOS OF ^{151}Eu FOR THERMAL 2.55 AND 144 keV NEUTRONS. The isometric cross-section ratios of ^{151}Eu for neutrons with neutron energies 2, 55, 144 keV and thermal obtained with Sc- and Si-filters have been measured at the VVR-M reactor. A decrease of the isometric cross-section ratio is observed about 10% for neutrons with energy 144 keV.

THE RESONANCE PARAMETERS OF ^{235}U IN ENERGY RANGE 1-100 eV. Calculated values of ^{235}U resonance parameters have been obtained according to Breit-Wigner and Adler-Adler formalisms. The comparison of the quality of the description of cross-sections in the range of resolved resonances conducted by two systems of parameters has been given and the equality of the systems utilization has been shown. The use of the smooth file method allows to improve the quality of the description of experimental data.

ABOUT THE NEUTRON SMALL-ANGLE SCATTERING BY NUCLEI OF ^{238}U . The situation in the experimental study and analysis of the angular distributions of fast neutrons is considered for estimation of the electric polarizability of neutron. Some proposals are presented in this field.

THE LIBRARY OF SERVICE PROGRAMS FOR THE WORK WITH EVALUATED NEUTRON DATA FROM KEDAK AND ENDF/B. This paper given the list of foreign evaluated nuclear data libraries, received by CJD in the framework of international exchange; and the list of service programs adapted on the computer EC-1033 and used in CJD for the work with evaluated data. The functions of programs are shown.

EXCITATION FUNCTIONS OF $^{235}\text{U}(n, xn)$ AND $^{234}\text{U}(n, xn)$ REACTIONS BY NEUTRONS WITH SPECTRUM OF ACCELERATOR-BREEDER'S BLANKET AND BUILD-UP OF URANIUM ISOTOPES. Reactions with multiple particle productions, generated by neutrons, having the spectrum of accelerator breeder's blanket and energy between 1 to 50 MeV with ^{235}U and ^{234}U , was studied. Excitation Functions and spectrum of nucleon's α particles and γ -rays was calculated by methods of statistical theory of nuclear reactions for each stage of decay. Yield of different uranium isotopes ^{232}U in particular, was calculated for spectrum from two different targets.

THE EVALUATION OF NEUTRON TOTAL CROSS-SECTION MOMENTA FROM MEASURED TRANSMISSIONS. A nontraditional approach to neutron total cross-section

momenta evaluation as linear combinations of measured transmission values is developed. The results for three typical probability distributions are presented.

THE MEASUREMENT OF THE NEUTRON CAPTURE CROSS-SECTION FOR TUNGSTEN

ISOTOPES IN THE ENERGY REGION FROM 5 TO 400 keV. The results of the measuring of the neutron capture cross-section for the isotopes $^{180,182,183,184,186}\text{W}$ and natural tungsten in the energy region from 5 to 400 keV are presented. The measurements were carried out at the time-of-flight spectrometer of neutron on the pulsed Van-de-Graaf accelerator EG-1 (FEI). Normalization of the capture cross-section was made on the results of the measuring in the saturated resonance ^{197}Au , ^{109}Ag , ^{182}W , ^{145}Nd , using the weighting technique and cross-section $^6\text{Li}(n, \alpha)^3\text{H}$ for the monitoring of neutron flux. The accuracy of present results equals 5-7% for the most part of the investigated energy region.

SYSTEMATICS OF NUCLEAR REACTIONS YIELDS FOR THICK TARGET AT 44 MeV

α -PARTICLES ENERGY. The paper presents the yields of nuclear reactions of various types for a thick target at irradiating chemical elements by 44 MeV energy α -particles. The reaction yield is determined by a number of reaction events per 1000 α -particles. In all there are 206 meanings of reaction yields of the types $\alpha 2n$, $\alpha 3n$, αpn , $\alpha \alpha n$, $\alpha(p2n+3n)$, $\alpha p2n$... These yields are systematized according to the reaction types. To obtain the reaction yields meanings the author has employed his previously published yields of radioactive nuclides for the thick target at $E_{\alpha} = 44\text{MeV}$. The use of presented data for the evaluation of radio-nuclide yields is briefly considered.

ON THE PROBLEM OF SELECTION OF GROUP HOMOGENIZED CONSTANTS. The paper considers a problem of construction of algorithms for selection of group homogenized constants which provide, for a given group division, some unaltered set of functionals such as k_{ef} , process numbers, fluxes and currents when passing from the initial problem to a multi-group one with any given precision limited by nuclear constants uncertainties.

FISSION PRODUCTS NEUTRON ABSORPTION STUDIES ON A CRITICAL SUBASSEMBLY- A SIMPLE MODEL OF FAST REACTOR. The studies of the neutron absorption by the nuclear fission products on a critical subassembly - a simple model of BN-600 energetic reactor have been performed. An average important nuclides fission products cross-section ratios and reactivity coefficient ratios have been measured and calculated relatively to the ^{235}U . It is shown that the more than 20 percent discrepancy between experiments and calculations for ^{95}Mo , ^{97}Mo , ^{100}Mo , ^{104}Ru , ^{108}Fd takes place.

MOLIBDENIUM GROUP CONSTANT ACCURACY VERIFICATION IN EXPERIMENTS AT FAST CRITICAL FACILITIES. To verify an accuracy of molibdenium group constants the reactivity worth of several molibdenium samples have been measured at the critical facilities KBR-9, KBR-10 and SEG-IV. All experimental results have been extrapolated to zero size of the

sample. The data recommended in several sets of molybdenum group constants were used in the calculation. The effects of heterogeneity and resonance structure of the adjoint function were taken into account. The calculated data were compared with the measurements. It was found that the minimum discrepancy occurred in the case of BNAB-78 (up to $\pm 5\%$).

ESTIMATION OF TOTAL CROSS-SECTIONS OF FORMATION OF NEUTRONS AND PROTONS WITH INTERACTION OF DEUTERONS WITH NUCLEI ${}^7\text{Li}$. The cubic spline approximation curves were obtained on base of available experimental data. The brief description of evaluation method with use of spline-functions with due regard for systematic and accidental errors is given. The method of representation of obtained estimation curve in form of table of cubic spline coefficients which are convenient for interpolation calculation is proposed.