CALCULATION OF INTEGRAL DELAYED NEUTRONS PROPERTIES. PART 1. TOTAL DELAYED NEUTRON YIELD. The total delayed neutron yield has been derived from the nuclear data and fission yields of the individual precursors. The agreement with the experimental measurements is acceptable for the cases 25 fissionable nuclides.

CALCULATION OF INTEGRAL DELAYED NEUTRONS PROPERTIES. PART 2. DELAYED NEUTRON PARAMETERS AND REACTIVITY. Using the fission product delayed neutron precursor data, six delayed neutron groups for six fissionable nuclides were obtained. The compares on with, known sets of delayed neutron parameters is done in reactor kinetics calculation.

URANIUM AND PLUTONIUM ENERGY RELEASE PER FISSION EVENT IN NUCLEAR REACTOR. The total and effective (including all contributions except those from antineutrinos and long-lived fission products) energies per fission have been calculated for nuclides 235U, 238U, 239Pu, 241Pu. For the reactor WER-440, the total thermal energy, including that from neutron capture has been obtained.

ANOMILIES IN A SOURCE 60Co GAMMA-RAY TRANSMISSION THROUGH LEAD, BISMUTH, URANIUM. Transmission of 60Co radio-nuclide gamma-rays through iron, wolfram, lead, bismuth and uranium was investigated in a "bad" geometry. Energy spectra were measured and reduction factors of 1.33 Mev gamma-rays were obtained. Information earlier obtained by other procedures on anomalous gamma-ray reduction in lead and existence of irregularities in leakage spectra from lead and uranium was corroborated. Anomalous gamma-ray reduction in bismuth was also detected.

THE REACTIVITY WORTH EXPERIMENTS EVALUATION. The bilinear weighted constants has been used in a reactor calculations at comparing reactivity worth coefficients obtained in calculations and experiments. The simple method of bilinear correction is proposed for evaluating of small sample reactivity worth experiments in heterogeneous media. It has shown, that
evaluation of measurements $K^+(K\infty)$ in heterogeneous media is more complicated in homogeneous one. The mimerical estimations are carried out for some fast critical assemblies KBR. Bilinear corrections are very sufficient for construction and scattering materials.

ON OPTIMAL USE OF GEOMETRICAL SPLITTING IN MULTIGROUP CALCULATIONS
OF HYDROGENEOUS SHIELDING BY MONTE-CARLO METHOD.
The present paper gives the investigation results of the optimal splitting plane location algorithms in the multi-group calculations of neutron propagations through the symmetry system by the Monte-Carlo method. A homogeneous water cylinder of 100 cm length and 50 cm in radius is considered. The splitting surfaces are the planes normal to the symmetry axis of the cylinder. Consideration is given to the normal plane source uniformly distributed on the face of the cylinder and to the five energy groups. The optimal location of splitting planes is obtained for the estimation of a group leakage through the surface of z=100 cm and a group flux in the geometrical zones in the cylinder. To use the splitting surfaces in the groups below a third is not efficient.

NEUTRON PARAMETERS OF SLOWING-DOWN PROCESS INCLUDING INELASTIC SCATTERING. Parameters characterizing neutron slowing-down process: the average logarithmic energy decrement per collision and the average square of the logarithmic energy decrement per collision, the average cosine and the average cosine squared of the scattering angle in the laboratory system have been considered for the cases of elastic scattering and inelastic scattering with excitation discrete energy levels and continuum. For these parameters accurate and approximate expressions taking account of anisotrophy of inelastic scattering in the center-of-mass system have been obtained. Neutron parameters of carbon in the energy range of 5-14 MeV have been calculated and the effect of the inelastic scattering and its anisotropy on them has been analyzed.

CALCULATION KERMA-FACTORS USING OF THE EVALUATED NUCLEAR DATA LIBRARIES. Computational model is developed for calculating neutron kerma-factors and total energy of photons from basic nuclear data for all neutron reaction types in any energy range.
The evaluated nuclear data libraries are used for the calculation of kerma-factors.

TARGET PROIRITIES AND NUCLEAR DATA. The influence of the target properties on nuclear data was shown. In case of fission material target such influence was demonstrated for fission cross-section, average number of neutrons and spectrum of the prompt fission neutrons experiments. The experimental methods of the determination of some corrections was analyzed. The method of tritium density determination for solid target using as neutron source was demonstrated too.

GAMMA-BAY. PRODUCTION CROSS-SECTIONS BY INTERACTION OF 3.0 MeV NEUTRONS WITH 232U, 235U AND 238U. Spectra and total cross-sections of gamma-rays produced in energy range 0.25-3.55 MeV by neutrons with energy 3.0 MeV have been measured. A notable disagreement with the ШАВ-78-evalution is revealed. A large number of monochromatic gamma-transitions have been observed. About 20 gamma-transitions are assigned to the fission fragments prompt gamma-rays.

RECOMMENDED' REFERENCE DATA OF ENERGY NORMALS OF 3d ORDER IN THE FIELD OF X- AND GAMMA-RAYS. The tables presented are based on the metrologically verified system of eleotromagnetic radiation energy normals. The recommended values were obtained by taking into account new data and averaging results in the case of several easurements.