events was used. The resonance neutron fission cross section obtained are consistent with the data of Kimura et al. and with the data of Jiacoletti et al., and are about 3 times larger than the data of Plattard et al.

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GENERAL-PURPOSE SUPER COMPACT COMPTON SUPPRESSION GAMMA SPECTROMETER

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A number of experiments in nuclear physics, as well as solid state physics, being carried out at JINR laboratories in Dubna, imply a high-resolution gamma-spectroscopy in energy range 100 keV-10 MeV. In particular, these experiments include a study of quantum aspects of fission, search for s-— and p- wave neutron resonances, determination of the parameters of p— wave resonances with parity violation, observation and use of neutron standing wave for the investigation of thin films and multilayers on subangstroem level. To make these experiments more effective, a new all-purpose Compact Compton Suppression Spectrometer (CCSS) is being designed at JINR. The construction of the spectrometer is developed on the basis of a HPGe detector and BGO surrounding and include the latest technical advances in this field. A number of original innovations provide a high compactness, mobility and reliability of the set-up, especially in experiments with unfavorable background conditions. The optimization of the geometry and calculation of parameters of the spectrometer is done using the GEANT code. Some characteristics of the set-up are demonstrated in comparison with the analogous existing detectors.

ANTICOMPTON HPGe-BGO GAMMA SPECTROMETER FOR NUCLEAR PHYSICS EXPERIMENTS AT PULSED NEUTRON SOURCES

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An investigation of the resonance neutron induced fission of heavy nuclei is carried on in the Frank Laboratory of Neutron Physics, JINR, Dubna. Using the existing spectrometer with Ge(Li) detector one can not achieve the desirable accuracy of the experimental data . To improve the research methods and increase experimental possibilities, the new spectrometer on the basis of HP Ge detector with BGO anticompton shield has been constructed. The optimization of the geometry has been done using the CERN's code GEANT. Detector response both on the monoenergetic gamma-ray and on the real gamma-spectrum from Pu-239 is calculated. The results of calculations are compared with the real characteristics of the spectrometer. The first experimental data obtained on the new spectrometer are demonstrated.