

PHOTOEXCITATION OF THE  $^{111m}\text{Cd}$  ISOTOPE  
AT  $E_\gamma < 3.0$  MeV

*O.S. Shevchenko, Yu.N. Ranyuk, A.N. Dovbnja,  
V.N. Borisenko, I.G. Goncharov, V.N. Gostishchev,  
E.L. Kuplennikov, A.A. Nemashkalo,  
V.I. Noga, I.I. Shapoval*

National Scientific Center  
“Kharkiv Institute for Physics and Technology”  
(1, Academichna Str., Kharkiv 61108, Ukraine;  
e-mail: *kupl@kipt.kharkov.ua*)

S u m m a r y

The resonant absorption of  $\gamma$ -quanta by  $^{111}\text{Cd}$  nuclei with the excitation of its isomeric state has been measured with a step of 200 keV within the interval of end-point energies of the bremsstrahlung spectrum,  $E_{\gamma \text{ max}} = 1.0 \div 3.0$  MeV. The investigation of the metastable state population has been performed making use of the activation technique. The integral cross-sections have been derived for the first time for the intermediate levels with energies of 2006 and 2495 keV which take part in the photoexcitation of the  $^{111}\text{Cd}$  isomer.