

Abstract:

Scintillation C_6D_6 detectors are used for radiative capture cross-section measurements in various neutron time-of-flight facilities (n_TOF in CERN, GELINA in IRMM Geel). To determinate cross-section with the help of Pulse Height Weighting Technique we usually neglect influence of undetectable energy, derived from two phenomena - internal conversion and detection threshold for low photon energies. However, in some cases their impact cannot be completely omitted and due to lack of knowledge it has not been the subject of research yet. The purpose of this thesis is to study the influence of these two effects from simulations of neutron radiative capture induced photon spectra. Two nuclei: ^{197}Au and ^{238}U were used for testing.