

## INVESTIGATION OF THE NEUTRON EMISSION SPECTRA OF SOME DEFORMED NEIGHBOURING TARGET NUCLEI

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The character of the nuclear deformation can be seen in the mass regions  $150 < A < 190$  and  $A > 220$ . The knowledge of the (n,xn) neutron emission spectra belonging to neighbouring deformed nuclei region should be useful for studying the accuracy of the statistical model. The neutron emission spectra of some neighbouring target nuclei with deformation have been calculated for the nucleon-incident reactions by using nuclear reaction models. In these calculations, the hybrid model, the geometry dependent hybrid model, the cascade exciton model and the full exciton model including the effects of pre-equilibrium have been used. Equilibrium effects have been calculated according to the Weisskopf-Ewing model. The pre-equilibrium calculations on the excitation functions were carried out with PCROSS code for full exciton model, ALICE/ASH code for hybrid model and the geometry dependent hybrid model, and CEM95 code for cascade exciton model. The reaction equilibrium component in ALICE/ASH code is calculated with a traditional compound nucleus model by Weisskopf-Ewing method neglecting angular momentum. In this study, neutron emission spectra calculations of  $^{184}\text{W}(n,xn)$  and  $^{181}\text{Ta}(n,xn)$  reactions have been carried out in the 11.5-26 MeV incident neutron energy range. The obtained results have been discussed and compared with the experimental data taken from the literature.