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Calculation and Evaluation of Proton-Induced Reactions on N, O, Zn, and Cd up to 50 MeV

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ABSTRACT

We have evaluated the proton-induced nuclear data of N, O, Zn and Cd for energies between 0.5 and 50 MeV. The purpose of this work is to examine the applicability of the optical potential parameters in RIPL(Reference Input Parameter Library for theoretical calculations of nuclear reactions) of IAEA. We apply the ECIS96-GNASH nuclear model code, which includes Hauser-Feshbach, preequilibrium and direct reaction mechanisms. The evaluated reaction cross sections are compared with the experimental data obtained from EXFOR at the NEA Data Bank, and stored in MF3 and MF6 of the ENDF-6 format.