

STUDY OF 660-MEV PROTON-INDUCED REACTIONS ON ^{129}I

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Isotopically enriched ^{129}I targets (85% ^{129}I and 15% ^{127}I) were exposed to a beam of 660-MeV protons at the JINR DLNP Phasotron and a total of 75 residual products were obtained by radiochemistry. In the present work, we perform an extended comparison of our experimental data with ten different models, realized in eight codes: LAHET (Bertini, ISABEL, and INCL (Cugnon-Schmidt) options), CASCADE, CEM95, CEM2k, LAQGSM+GEM2, CEM2K+GEM2, LAQGSM+GEMINI, and CEM2k+GEMINI. The comparisons are performed according to the well known standard methods. Out of 75 measured reaction cross section, only 48 are found to satisfy the criteria necessary to be used. Average deviation factor and its standard deviation were used for the comparison. We found that most of the codes are fairly reliable in predicting cross sections for nuclides not too far away in mass from iodine, but differ greatly in the deep spallation region. The best agreement with the data, especially in the $A=40-90$ region, is shown by the codes CEM2k and LAQGSM when they are merged with the GEMINI code.

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