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Interpretation and prediction of nuclear experimental results by the data-containing codes

One of the trends in modeling of rare isotopes production is the creation and the development of codes which, on the one hand, realize various standard theoretical approaches of the reactions producing exotic nuclei and, on the other hand, contains a large bulk of nuclear data. This development follows the direction of higher capability of the programs and, in addition, makes these codes user-friendly step by step.

Typical examples of such codes namely EMPIRE and TALYS are discussed. The results of the calculations of the reaction cross sections and isomeric ratios are presented for illustration.

It is shown that in the most cases the programs are capable to describe a complete set of reaction data and thus the results of the calculations may be considered as a reasonable predictions of yields of rare nuclides.

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