

TalysLib: a ROOT-based toolkit for nuclear data access

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Information about nuclear reactions and properties of nuclei is often needed during nuclear data processing. Access to the nuclear databases from applied software is often difficult because of complex file format or database structure. To simplify usage of the nuclear data a specific toolkit TalysLib was developed.

TalysLib is a ROOT-based C++ object-oriented library. It uses wide capabilities of ROOT [1] for data visualization and transformations. The main source of the evaluated data for TalysLib is the TALYS [2] program. Information about nuclear structure is extracted from RIPL-3 [3]. Work on the ENDF [4] data and preprocessed EXFOR data [5] support is in process.

TalysLib can be used for optimization of the theoretical model parameters using MINUIT package which is included in ROOT.

The structure of the TalysLib and its main features will be presented. Current version of the TalysLib is available on <https://github.com/terawatt93/TalysLib>.

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The speaker is a student or young scientist

No

Section

1. Experimental and theoretical studies of nuclear reactions

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