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# Review of experimental parameter marginalization methods for the production of covariance matrices

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Nuclear data can be based experimental probes alone, however one could expect to predict extra non-measured quantities by using underlying models. Evaluation of nuclear data thus often consists in aggregating experimental information with theoretical models. The information transfer is performed though comparison between theoretical and empirical quantities of the same nature. One can either turn experimental quantities to be as close as possible of the theoretical model used to further produce the nuclear data of interest, or to add extra layers of the modeling side to make the connection the closest possible to raw independent recorded quantities. This latter case should avoid the occurrence of Peel's Pertinent Puzzle. Extra layers of modeling imply parameters that are not involved in the production of the eventual nuclear data, which possible leads to underestimated uncertainties. Marginalization techniques are then used to somehow transfer the source of uncertainty from these extra "nuisance"parameters on the useful nuclear model parameters. Some of commonly used techniques are reviewed in this presentation.

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