
ASSESSMENT OF THE UNCERTAINTIES ASSOCIATED WITH THE OPTICAL MODEL POTENTIAL IN EVALUATIONS.

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In the model-based nuclear data evaluation process, the optical model potential (OMP) plays a central role, especially the entrance channel OMP which determines the reaction cross section that is broken down into individual channels by the statistical model. If enough good quality data is available to calibrate OMP parameters, the uncertainties associated with this OMP are essentially the same as the uncertainties on the experimental data used for parameter adjustment. On the other hand, if not enough data is available, a global OMP must be used, and there should be at least some assessment of the uncertainties associated with this global OMP. Using the semi-microscopic OMP of (E. Bauge, J.P. Delaroche, and M.Girod, Phys. Rev C **63**, 024607 (2001)) as a basis for our study, we propagate the uncertainties associated with the adjusted normalization factors of the potential to the calculated quantities, using the Monte-Carlo method. We can thus calculate not only cross sections but also their associated uncertainties in cases when essentially no data is available. The uncertainties on the entrance channel OMP observables can then be propagated to the rest of the evaluation process.