

Modelling the $K^+\Sigma^-$ photoproduction with an Isobar model using a novel fitting method.

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The $K^+\Sigma^-$ photoproduction off the neutron is investigated with an Isobar model. Measurements of differential cross sections and photon beam asymmetries from the LEPS and CLAS collaborations were used to fit the parameters of the model, which are mainly the coupling constants of numerous resonances. However, fitting a model with a large number of free parameters can be problematic and often leads to overfitting the data. In such cases, the inclusion of a penalty term in the error function helps improve the quality of the fit and, if combined with certain information theoretic criteria, the fitting process effectively selects an optimal subset of the resonances involved.

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