Contribution ID: **10**   Type: **not specified**

Correlation functions for the $N^*(1535)$ and the inverse problem: the role of the K Lambda, K Sigma and eta p coupled channels

Friday, 5 April 2024 09:30 (30 minutes)

I shall report on recent calculations of the correlation functions for the coupled channels K lambda, K Sigma, Eta N, using input from the chiral unitary approach. Then I will face the inverse problem, starting from these correlations and assuming present experimental errors in this type of correlation functions, I will show how one can learn about dynamics of the interaction of particles, scattering lengths and effective ranges, and the existence of a bound state, corresponding to the N*(1535), and very important, with which precision one can obtain these observables starting from the knowledge of the correlation functions with given errors. At present only the K Lambda correlation function is known, which we reproduce fairly well, and we show the need of measuring the correlation functions for the other channels in order to obtain reliable numbers for these observables.

Primary author: OSET, Eulogio

Presenter: OSET, Eulogio

Session Classification: Session 8