



Contribution ID: 64

Type: **not specified**

Meson spectroscopy (theory)

Tuesday 14 March 2017 09:45 (45 minutes)

Large data sets in light meson spectroscopy from fixed target experiments are challenging standard analysis methods in meson spectroscopy. On the one hand, they allow for innovative methodology but at the same time require a more profound and exact understanding of underlying hadronic physics. Partial wave analysis now is a standard tool used across all experiments including heavy meson decays. This has led to a large number of new results for light mesons but also raises the issue of systematic biases in individual analysis, including the path towards interpretation. However, the level of complexity in PWA is still different for various types of analysis.

It is a challenging theoretical problem to determine the underlying, analytical reaction amplitudes. There are possible overlapping resonances, threshold cusps, background and particle exchanges and precision data requires analysis that is based on principles of relativistic scattering such as unitarity, analyticity, crossing symmetry and considers QCD specific features, e.g., chiral symmetry.

In this session, will discuss new results and developments and point towards their applications across this wide field of analyses from light to heavy meson spectroscopy.

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Session Classification: Session