ID contributo: **183** Tipo: **Invited**

Strange-Meson Spectroscopy with COMPASS

giovedì 8 giugno 2023 14:00 (25 minuti)

The excitation spectrum of light mesons which are composed of up, down, and strange quarks, allows us to study QCD at low energies and is an important input to other analyses such as searches for CP violation in hadronic B-meson decays. While the non-strange light-meson spectrum is already mapped out rather well, many predicted strange mesons have not yet been observed experimentally and many potentially observed states still need further confirmation and their parameters are poorly determined. Hence, the strange-meson spectrum may hold many surprises.
The $190\,\mathrm{GeV}/c$ hadron beam at CERN's M2 beam line contains a K^- component, which allows us to study the spectrum of strange mesons with the COMPASS experiment, a two-stage magnetic spectrometer. The flagship channel is the $K^-\pi^-\pi^+$ final state, for which COMPASS has acquired the so-far world's largest data set. We performed a partial-wave analysis in order to disentangle the produced mesons by their spin-parity quantum numbers. In this talk, we will focus on recent results from this analysis studying properties of excited strange mesons with various spin-parity quantum numbers in a wide mass range.

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Classifica Sessioni: Light meson spectroscopy

Classificazione della track: Light meson spectroscopy