Contribution ID : 29

## Dispersive study of $\pi K$ and $\pi \pi \rightarrow K \overline{K}$ scattering: threshold parameters and kappa/K<sup>\*</sup>(700) resonance determination

Tuesday, 15 December 2020 14:20 (25)

We report on our recently finished dispersive study of pion-kaon and pion-pion to kaon-antikaon scattering data. We have shown that naive fits to data fail to satisfy the dispersive representation, sometimes severely. We have then obtained a fairly simple Constrained Fit to Data set of partial waves that simultaneously describes the data and satisfy Forward, fixed-t and hyperbolic dispersion relations. Using these amplitudes inside partial-wave hypebolic dispersion relations we have confirmed thexistence of the controversial kappa/K0\*(700) light meson, providing a precise determination of its parameters. We have also derived sum-rules form these dipersion relations that provide precise and model-independent values for pion-kaon threshold parameters, confirming the tension between lattice and dispersive results, as well as the leading contribution to the kaon-sigma term.

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Session Classification : Session 1