Contribution ID: **80** Type: **not specified**

Calculation of Regge trajectories of strange resonances and identification of the kappa(800) as a non-ordinary meson

Tuesday, 8 March 2016 16:30 (30 minutes)

In ExcitedQCD2014, we presented a dispersive method to calculate Regge trajectories from their associated poles in elastic pion-pion scattering, which allowed to identify the rho(770) as an ordinary meson and the f0(500) as a non-ordinary one. Here we first present a dispersive treatment with more subtractions that confirms these results. In addition, extend this method to elastic or quasi-elastic resonances appearing in pion-pion, kaon-kaon, kaon-pion and K-*pion scattering. In this way the f2(1270), f2'(1525),* K(892), K1(1410) and K0*(1430) resonances are identified as ordinary mesons.*
Finally, we identify the controversial kappa or K0(800) scalar resonance as a non-ordinary meson whose Regge trajectory is not linear and bears a striking similarity to that of the f0(500) and, at low energies, to a Regge trajectory of a Yukawa potential, whose parameters can be estimated.

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Session Classification: Tuesday Afternoon