Contribution ID: **110**   Type: **Talk**

a_0-f_0 mixing in the Khuri-Treiman equations for eta -> 3pi

Tuesday, 30 June 2015 15:20 (20 minutes)

The isospin violating eta->3pi decays are expected to provide the best observables for the determination of the u-d quark mass difference. However, using the chiral expansion of the Eta -> 3Pi amplitude in the physical region has proved problematic, as it fails to reproduce the recent precise measurements of the Dalitz plot parameters. In order to circumvent this problem, it was proposed to combine the chiral expansion, used in an unphysical region, together with the dispersive formalism of Khuri and Treiman. We discuss here the possibility of extending this formalism, which so far accounts for only elastic pi-pi rescattering, in order to further account for the effects of both inelastic pi-pi rescattering and eta-pi rescattering. In the 1 GeV region of the dispersive integrands, in particular, these effects are enhanced by the f_0 as well as the a_0 resonances. The effect of the isospin violating K^+-K^0 mass difference, influenced by these resonances, is then also accounted for in the dispersive integrals.

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Session Classification: Parallel Session 3 - Goldstone Boson WG

Track Classification: Goldstone Boson Working Group