



Contribution ID: 70

Type: **Poster Presentation**

$D_{s0}^*(2317)$ as a DK molecular state

In the present talk, we present a molecular nature of the charmed strange $D_{s0}^*(2317)$ state. The $D_{s0}^*(2317)$ state has a mass approximately 40 MeV below the D^0K^+ threshold, and the upper limit of the width is known to be 3.8 MeV. Its favorable spin-parity assignment is believed to be $J^P = 0^+$, the parity conservation being assumed. Since $D_{s0}^*(2317)$ only decays into the isospin breaking process, the $\pi^0 - \eta$ mixing for the $D_s\pi^0$ channel is taken into account in our calculation. We solve the coupled integral equations to obtain a fully off-mass shell T -matrix in the momentum space. The u -channel exchange amplitudes in DK channels generate dynamically a DK bound state, which can be identified as the $D_{s0}^*(2317)$ meson. We also discuss the uncertainty of the results with the coupling constants varied.

Primary authors: KIM, Hee-Jin (Inha University); Prof. KIM, Hyun-Chul (Inha University)

Presenter: KIM, Hee-Jin (Inha University)

Session Classification: Poster Session