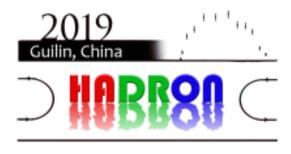
## XVIII International Conference on Hadron Spectroscopy and Structure (HADRON2019)



Contribution ID: 137 Type: Parallel

## Multiple charm and hidden charm mesons with strangeness

Wednesday, 21 August 2019 09:35 (20 minutes)

In a recent work we have studied three-body scattering, considering the DDK system, in a coupled channel approach. All input two-body scattering matrices have been obtained by solving Bethe-Salpeter equations for different channels coupling to same quantum numbers. The lowest order amplitudes for the two-body subsystems are obtained from a Lagrangian based on the heavy quark symmetry. We have investigated the contributions of three-body contact terms and find that there exists a cancellation among the different sources of contact terms. Such a test has been made with Lagrangians based on heavy quark as well as SU(4) symmetries. The resulting amplitude shows that a three-body bound state should exist, with double charm and positive strangeness.

In a separate study we have investigated a hidden charm and positive strangeness system  $D\bar{D}^*K$ , which we treat as KX(3872) and KZ(3900) coupled channels, where we find a heavy  $K^*$  state formed. The results from both studies will be discussed in the talk.

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Presenter: Dr MARTINEZ TORRES, Alberto (Universidade de São Paulo)Session Classification: Session 3: Exotic hadrons and candidates

**Track Classification:** Session 3: Exotic hadrons and candidates