Contribution ID: **160** Type: **Talk**

Tensor meson contribution to three pion axial-vector form-factor in tau decays

Friday, 29 September 2017 09:45 (20 minutes)

By means of resonance chiral theory we compute the contribution of spin-2 resonances to the tau -> nu pi pi pi decay. We build a chiral invariant Lagrangian for tensor and axial-vector resonances that implements chiral symmetry (and isospin) in the process. This ensures that the hadronic amplitudes follow the low-energy behaviour prescribed by chiral perturbation theory. Likewise, by imposing Brodsky-Lepage high energy form-factor constraints, we fix the new parameters for this channel. Thus we provide an appropriate description of the resonance, low-energy and high-energy regions of the three-pion axial-vector form-factor mediated by a tensor resonance. Finally, We will comment on the (on-going) implemention of this new channel in the TAUOLA event generator.

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Session Classification: QCD and hadron structure

Track Classification: QCD and hadron structure