



Contribution ID: 268

Type: **Invited talk**

Chiral Perturbation Theory with an Isosinglet Scalar

Thursday 2 August 2018 14:30 (30 minutes)

We discuss an extension of chiral perturbation theory where we include an isosinglet scalar in the Lagrangian. The dynamical effects from the scalar state is of phenomenological relevance in theories where the mass of the isosinglet scalar is comparable to the mass of the pseudo-Goldstone bosons. This near-degeneracy of states is for example observed in certain near-conformal BSM models. From the Lagrangian we calculate the one-loop radiative corrections to the pion mass and decay constant, for different patterns of chiral symmetry breaking of immediate relevance for phenomenology and lattice investigations. We then discuss the results and how our generic approach encompass different interesting limits, such as the dilation limit.

Authors: HANSEN, Martin (CP3-Origins, University of Southern Denmark); Mr LANGÆBLE, Kasper (CP3-Origins, University of Southern Denmark); Prof. SANNINO, Francesco (CP3-Origins, University of Southern Denmark)

Presenter: HANSEN, Martin (CP3-Origins, University of Southern Denmark)

Session Classification: Strongly Coupled Theories

Track Classification: G: Strongly Coupled Theories