



Contribution ID: 151

Type: **Talk**

Radiative corrections in Dalitz decays of π^0 , η and η' mesons

Thursday, 2 August 2018 15:20 (20 minutes)

We briefly summarize current experimental and theoretical results on the two important processes of the low energy hadron physics involving neutral pions: the Dalitz decay of π^0 and the rare decay $\pi^0 \rightarrow e^+e^-$. As novel results we present the complete set of radiative corrections to the Dalitz decays $\eta^{(\prime)} \rightarrow \ell^+\ell^-\gamma$ beyond the soft-photon approximation, i.e. over the whole range of the Dalitz plot and with no restrictions on the energy of a radiative photon. The corrections inevitably depend on the $\eta^{(\prime)} \rightarrow \gamma^*\gamma^{(*)}$ transition form factors. For the singly virtual transition form factor appearing e.g. in the bremsstrahlung correction, recent dispersive calculations are used. For the one-photon-irreducible contribution at the one-loop level (for the doubly virtual form factor), we use a vector-meson-dominance-inspired model while taking into account the η - η' mixing.

Primary author: Dr HUSEK, Tomáš (IFIC, Universitat de València-CSIC (ES))

Co-authors: KAMPF, Karol (Charles University, Prague (CZ)); NOVOTNÝ, Jiří (Charles University, Prague (CZ)); LEUPOLD, Stefan (Uppsala University (SE))

Presenter: Dr HUSEK, Tomáš (IFIC, Universitat de València-CSIC (ES))

Session Classification: Light quarks

Track Classification: B: Light quarks