



HEP 2013
Stockholm
18-24 July 2013



Contribution ID: 85

Type: **Talk presentation**

Resolving the puzzle of the pion-photon transition form factor

Saturday 20 July 2013 11:20 (15 minutes)

Making use of dispersive QCD sum rules, we analyze the pseudoscalar meson–photon transition form factors. We show that most of the existing measurements –the BaBar results for η , η' , and η_c and the Belle results for π^0 –are well compatible with each other and with the saturation predicted by pQCD factorization theorems and give a hint that the saturation is effective already at relatively low momentum transfers. The existing well-measured data for the pion elastic form factor at $Q^2 \sim 4 \text{ GeV}^2$ also support this observation. The only exception is the BaBar data for the π^0 - γ transition form factor which lie beyond this nice picture. We point out that the expected results from CLAS12 at JLab on the pion form factor in the region $Q^2 \sim 5\text{--}8 \text{ GeV}^2$ will provide an ultimate test of saturation and pQCD factorization and will have strong impact on the general picture of the form factors up to infinitely large momentum transfers.

Primary authors: MELIKHOV, Dmitri (HEPHY); LUCHA, Wolfgang (HEPHY, Austrian Academy of Sciences)

Presenters: MELIKHOV, Dmitri (M. V. Lomonosov State University); MELIKHOV, Dmitri (HEPHY)

Session Classification: QCD

Track Classification: QCD