Contribution ID: **218** Type: **Oral**

Dilepton production in pion induced reactions

Monday, 31 August 2015 15:45 (15 minutes)

We calculate electron-positron pair production in pion-nucleon and pion-nucleus collisions. We derive the elementary cross sections in an effective field theory approach. We use these cross sections in a transport model to study π-nucleus reactions. We study the effect of the interference term (which is destructive in pi+ n and constructive in pi- p collisions) of the ρ and ω mesons on the dilepton spectra in pi+ A and pi- A collisions. Due to the interference term the ration of the cross sections at the omega mass is 4. This ration is reduced to 2 for heavy target because secondary reactions reduce the interference. Therefore, pion induced dilepton production allow us to study the decoherence in a strongly interacting medium.

Primary author: WOLF, Gyorgy (Hungarian Academy of Sciences(KFKI-RMKI))

Co-author: Dr ZÉTÉNYI, Miklós (Wigner RCP)

Presenter: WOLF, Gyorgy (Hungarian Academy of Sciences(KFKI-RMKI))

Session Classification: Hadron Structure, Spectroscopy, and Dynamics I