Contribution ID: **43** Type: **not specified**

High precision data on pion-proton elastic cross-section

Thursday 30 June 2016 16:20 (30 minutes)

EPECUR experiment finished processing of pion-nucleon data recorded before the fire at the ITEP proton syncrotron in 2011. More than 9000 cross section data points with extraordinary accuracy of 1% are presented both for positive and negative pion scattering on protons in the energy range 820-1330 MeV/c. The data are arranged in 2 degree angular intervals with approximately 5 MeV/c energy step.

Negative pion-proton results reveal hints to a narrow resonance-like structure near 1680 MeV. Possible explanations of such effect are discussed in the talk.

A search for narrow structures was also performed in inclusive inelastic data with one or two charged tracks in the acceptance of the setup. Yet no effect of any significance is observed.

Today EPECUR nearly finished preparations for the second stage of the experiment and is considering several possibilities for continuation of the experiment with medium energy pion beams.

Presenter: SVIRIDA, Dmitry (ITEP)

Session Classification: Thursday Evening