## Excited QCD 2016



Contribution ID: 113

Type: not specified

## An attempt of a determination of mass-differences $m_{K_L} - m_{K_S}$ and $m_{K_2} - m_{K_1}$ from CPLEAR data on semileptonic decay of $K^0$ and $\bar{K}^0$

Friday 11 March 2016 16:30 (30 minutes)

In an investigation of the decays and oscillations of neutral K-mesons two types of neutral particles have been introduced. The  $K_1^0$ ,  $K_2^0$  with well defined CP-parity and  $K_S^0$ ,  $K_L^0$  respecting the experimental fact of CP violation in weak decays of neutral K-mesons, whereby only particles  $K_S^0$ ,  $K_L^0$  are explicitly presented in Rev.Part.Physics. Despite of this fact one can in principle determine the mass-differences of both types of particles,  $m_{K_L} - m_{K_S}$  and  $m_{K_2} - m_{K_1}$ , from CPLEAR data on ASYMMETRY to be immune against CP transformations as it is obtained by semi-leptonic decays of neutral K-mesons, and applying for their description either theoretical formula for ASYMMETRY neutral K-meson oscillations trough  $K_S^0$  and  $K_L^0$ , or theoretical for ASYMMETRY neutral K-meson oscillations trough  $K_1^0$  and  $K_2^0$ .

Author: DUBNICKA, Stanislav (Institute of Physics)
Co-author: DUBNICKOVA, Adubni (Comenius University (SK))
Presenter: DUBNICKA, Stanislav (Institute of Physics)
Session Classification: Friday Afternoon