

Recent results from NA48/2 on K_4 decays and interpretation in term of $\pi\pi$ scattering lengths

Tuesday, 22 May 2007 18:10 (20 minutes)

The NA48/2 experiment at the CERN SPS has collected about 10^{**6} K^\pm decays into $\pi^+ \pi^- e^\pm \nu$ (K_4) in 2003 and 2004. The analysis of a partial sample of ~ 500000 such events allows a precise measurement of the decay parameters. The form factors of the reaction and their dependence with dipion and dilepton masses have been measured. Thanks to a sizeable acceptance at large $M_{\pi\pi}$ and the very good resolution of the NA48 detector, a high sensitivity to the $\pi\pi$ scattering lengths a_0 and a_2 is achieved. These almost model independent measurements can be confronted with the predictions from different calculations, in particular within the framework of Chiral Perturbation Theory.

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Session Classification: Session III

Track Classification: Low energy QCD