ID de Contribution: **143** Type: **Ordinary**

Searches for lepton number violation and resonances in the $K^{\pm} \to \pi\mu\mu$ decays at the NA48/2 experiment

dimanche 13 mars 2016 19:15 (15 minutes)

The NA48/2 experiment at CERN collected a large sample of charged kaon decays into final states with multiple charged particles in 2003-2004.
A new upper limit on the rate of the lepton number violating decay $K^{\pm} \to \pi^{\mp}\mu^{\pm}\mu^{\pm}$ obtained from this sample is reported: 8.6×10^{-11} at 90% CL, which improves by more than an order of magnitude upon the previous measurements. Searches for two-body resonances in the $K^{\pm} \to \pi\mu\mu$ decays (including heavy neutral leptons and inflatons) in the accessible range of masses and lifetimes are also presented.

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Classification de Session: Heavy Flavours

Classification de thématique: Experiment