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Searches for lepton number violation and resonances in the K+- −>pi mu mu decays at the NA48/2 experiment

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+- −> pi-+ mu+- mu+- obtained from this sample is reported: 8.6 × 10ˆ−{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+- −>pi mu mu decays (including heavy neutral leptons and inflatons) in the accessible range of masses and lifetimes are also presented.

Summary

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