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Recent results from the NA48 experiment at CERN

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The NA48/2 experiment presents a final result of the charged kaon semileptonic decays form factors measurement based on 4.28 million K±e3 and 2.91 million K±μ3 selected decays collected in 2004. The result is competetive with other measurements in K±μ3 mode and has a smallest uncertainty for K±e3, that leads to the most precise combined K±l3 result and allows to reduce the form factor uncertainty of |VUS|. The NA48/2 experiment at CERN collected a very large sample of charged kaon decays into multiple final states. From this data sample we have reconstructed about 1500 events of the very rare decay K+- —>mu+- nu e+ e- over almost negligible background in the region with m(e+e-) above 140 MeV, which is of great interest in Chiral Perturbation Theory. We present the m_ee spectrum and a model-independent measurement of the decay rate for this region.

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