

Probing the lepton flavour universality with Kl2

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The ratio $R_K = \Gamma(K^\pm \rightarrow e^\pm \nu) / \Gamma(K^\pm \rightarrow \mu^\pm \nu)$ provides a very powerful probe for the weak interactions structure. This ratio of decay rates is calculated with very high precision within the Standard Model but corrections due to the presence of New Physics could be as high as 3%. The data obtained by the NA48 experiment in two years of data taking at the CERN SPS accelerator has been analyzed. The obtained result for R_K is two times more precise than the world average but is still insufficient to probe the existence of physics Beyond the Standard Model. A new run in 2007, aimed for a sub-percent precision measurement of R_K , has been proposed and approved.

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