

Different approaches to calculate the $K^\pm \rightarrow \pi^\pm \pi^0$ e^+e^- decay width

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Collaboration

Abstract content

The rare $K^\pm \rightarrow \pi^\pm \pi^0 e^+ e^-$ decay, currently under analysis by the NA62 Collaboration, is considered. We have performed two theoretical approaches to calculate the differential decay width - in the kaon rest frame, where we use Cabibbo-Maksimovicz variables, and in the center-of-mass system of the lepton pair. The latter essentially simplifies the computations. A comparison between the two approaches has been performed. We have also found the dependencies of the differential decay rate as a function of the virtual photon and dipion system masses.

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