

# Electromagnetic interaction of baryon resonances in the timelike region studied via the reaction $\pi+N \rightarrow N e+e-$

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A very important contribution of dilepton production in pion-nucleon collisions comes from the Dalitz decay of  $s$ -channel baryon resonances,  $R \rightarrow N e+e-$ . These dileptons originate from a virtual photon with small timelike squared four-momentum  $q^2$ , therefore the study of this reaction gives access to the electromagnetic interaction of baryon resonances in a kinematical domain inaccessible elsewhere. In this contribution we discuss what space-time symmetries teach us about the anisotropy of dileptons in  $\pi+N \rightarrow N e+e-$ . Then we present an effective Lagrangian model and its predictions for the cross section of the reaction. This work is motivated by recent pion-beam experiments of the HADES collaboration at the CM energy of 1.49 GeV where baryons of the second resonant region are expected to give important contributions.

**Autore principale:** ZÉTÉNYI, Miklós (Wigner RCP, Budapest)

**Relatore:** ZÉTÉNYI, Miklós (Wigner RCP, Budapest)

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