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## Precision Measurement of Photon Emission in $K^{+-} \rightarrow \pi^{+-} \pi^0 \gamma$ Decays at NA48

We report our final result on the measurement of direct photon emission (DE) in the decay  $K^{+-} \rightarrow \pi^{+-} \pi^0 \gamma$  and its interference (INT) with the inner bremsstrahlung amplitude. For this measurement the full NA48/2 data set with about 600k reconstructed  $K^{+-} \rightarrow \pi^{+-} \pi^0 \gamma$  decays was analyzed, which is factor of 30 larger than for previous experiments and a factor of three w.r.t. our preliminary result. From this, the sizes of both the DE and the INT amplitudes have been measured with high precision, with the INT amplitude being observed for the first time. In addition, a measurement of the CP violating asymmetry between  $K^+$  and  $K^-$  has been obtained.

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