

# DIS 2015 - XXIII. International Workshop on Deep-Inelastic Scattering and Related Subjects

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XXIII International Workshop on  
Deep-Inelastic Scattering and  
Related Subjects

Dallas, Texas  
April 27 – May 1, 2015



Contribution ID: 91

Type: **not specified**

## QCD studies at NA48

We report the first observation of the very rare decay  $K^{*-} \rightarrow \pi^{+-} \pi^0 e^+ e^-$  by the NA48/2 experiment. From a clean sample of almost 2000 reconstructed signal events, we have determined the branching fraction with high precision and measured the  $e^+ e^-$  invariant mass distribution, which allows to differentiate between different decay models.

Besides, the NA48/2 experiment has recently published a detailed study of the  $Ke_4$  decay mode  $K \rightarrow \pi^0 \pi^0 e \nu$  based on 65000 candidates with a low 1% background contamination. The achieved experimental precision brings evidence for isospin breaking mass effects and final state  $\pi \pi$  scattering. Theoretical calculations will have to face a new precision challenge when using such improved inputs to extract for example low energy constants of Chiral Perturbation Theory.

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**Track Classification:** WG4 QCD and Hadronic Final States