

## Experimental evidence for piK-atoms

*Friday, July 17, 2009 5:25 PM (20 minutes)*

We present evidence for the first observation of electromagnetically bound pion-kaon pairs (piK-atoms) with the DIRAC-II experiment at the CERN-PS. The mean life of piK-atoms is related to the s-wave piK-scattering lengths, a measurement of which is relevant to low energy QCD, in particular chiral perturbation theories including the s-quarks. The atoms are produced by a 24 GeV/c proton beam in a thin Pt-target and the dissociated pions and kaons analyzed in a two-arm magnetic spectrometer. The observed enhancement at low relative momentum corresponds to the production of  $173 \pm 54$  piK-atoms. From these first data we derive a lower limit for the mean life of 0.8 fs at the 90% confidence level.

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**Session Classification:** VI. QCD in Hadronic Physics

**Track Classification:** QCD in hadronic physics