

Observation of π - K^+ and π^+ - K^- atoms

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Experiment DIRAC at CERN PS detects 349 ± 62 pairs from $K^+\pi^-$ and π^+K^- atoms and make observation of exotic atoms consist of pion and kaons. It allows to measure a difference of S-wave pion-kaon scattering length with isospin $1/2$ and $3/2$: $|a_{1/2} - a_{3/2}|$. Values of pion-kaon scattering lengths are predicted in a frame of ChPT and LQCD. Therefore investigation of π - K^+ and π^+ - K^- atoms gives possibility to check this predictions for simplest hadron-hadron system with s-quark.

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