

Kaonic atoms –high precision studies on the low-energy antikaon interaction

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The antikaon interaction on nucleons and nuclei in the low-energy regime is a challenging research field in experiment and theory. Now new precise data are available from x-ray spectroscopy of the lightest hadronic atoms with strangeness, i.e. kaonic hydrogen and helium isotopes. From the measurement of the x-ray transitions to low-lying levels by SIDDHARTA at DAFNE/Frascati the up-to-now most precise values for hadronic shifts and widths were extracted. The new precision data are essential input for the theoretical description. Therefore, SIDDHARTA is a key experiment for the understanding of low-energy QCD with strangeness. The experimental method, the final results and the implications as well as future opportunities will be presented.

Primary author: Dr MARTON, Johann (Stefan Meyer Institute, Austrian Academy of Sciences)

Presenter: ISHIWATARI, Tomoichi

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