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Results from the kaonic hydrogen X-ray measurement at DAFNE and outlook to future experiments

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The $K\bar{p}$ -N system at rest makes a sensitive testing ground for the understanding of strong interaction at low energies. At the DAFNE electron-positron collider of Laboratori Nazionali di Frascati we study X-ray transitions of kaonic atoms, taking advantage of the low-energy kaons produced by Φ -mesons decaying nearly at rest. In the SIDDHARTA (Silicon Drift Detector for Hadronic Atom Research by Timing Application) experimental program we are using X-ray spectroscopy of kaonic atoms to measure the strong interaction induced shift and width of the ground state. In this contribution we will report on the results for kaonic hydrogen and on preparations for an improved future experiment on kaonic deuterium.

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