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Kaonic atoms experiments at the DAFNE collider

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I shall present a series of frontier experiments searching for X rays coming from exotic atoms produced at the DAFNE collider of LNF-INFN (Italy). I shall introduce the physics and studies of kaonic atoms in the framework of the SIDDHARTA collaboration at the DAFNE Collider at the LNF-INFN, Frascati (Roma) laboratory. Combining the excellent quality kaon beam delivered by the DAFNE collider with new experimental techniques, as fast and very precise X ray detectors, like the Silicon Drift Detectors, we have performed unprecedented measurements on kaonic hydrogen and helium. Presently, a major upgrade of the setup, SIDDHARTA-2 is being realized to perform in the coming year the first ever measurement of kaonic deuterium. Kaonic atoms studies represent an opportunity to unlock the secrets of the strong interaction in the strangeness sector and understand the role of strangeness in the Universe, from nuclei to the stars.

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Track Classification: Invited