

## **Kaonic atoms beyond SIDDHARTA-2: future measurements and perspectives at the DAFNE collider**

*Tuesday, 10 May 2022 15:00 (20 minutes)*

The recent progress in the field of X-ray detection and their readout electronics contributed, in these last years, to a renewed interest in new and more precise measurements of kaonic atoms.

The DAFNE machine at the INFN Laboratories of Frascati is still the best facility in the world, in terms of purity of the kaon beam, luminosity, and kinematic conditions, where these important measurements can be carried on.

Beyond the SIDDHARTA-2 experiment, presently installed on the DAFNE Interaction Point exploiting 450 mm thick Silicon Drift Detectors (SDD) to measure for the first time X-rays from kaonic transitions in deuterium, several other important measurements are planned or proposed.

These new measurements, among which transitions in kaonic helium, carbon, sulfur, lead, wolfram, nitrogen, and molybdenum, are now feasible thanks to new technologies: 1 mm thick SDDs, CdZnTe, and HPGe detectors as well as crystal spectrometers and TES microcalorimeters.

In this talk, an overview of the already planned and foreseen measurements, together with others proposed for future campaigns, will be presented; for each one, the physics case, possible impacts, and details of the experimental setup will be given

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