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Present and future perspectives for Hadron Physics at LNF's infrastructures

The INFN Laboratories of Frascati (LNF) are a very sparkling laboratory. Thanks to already existing and planned high-quality infrastructures, they represent an ideal environment to perform Hadron Physics experiments. The main infrastructure is the DAFNE e+e- collider, where several crucial activities and experiments have been already performed in the strangeness sector. In particular, the SIDDHARTA and the SIDDHARTA-2 experiments provided and will provide extremely important results to the hadron physics community, among which the first measurements of the strong-interaction induced shifts and widths of kaonic hydrogen and deuterium fundamental level. A second important beamline is the Beam Test Facility (BTF) of LNF, where bunched beams of electrons and positrons with tunable energy (up to 510 MeV/c²) and multiplicity are extracted from the LINAC with a frequency of 25-50 kHz. This facility can be used either for physics experiments or for detectors' tests and every year hosts several external groups selected among a list of applicants. A similar extracted beam is presently hosting the PADME experiments, dedicated to the search of dark photons. Finally, a key role in the future of the LNF will be placed by the Eupraxia project, the first European project that develops a dedicated particle accelerator research infrastructure based on novel plasma acceleration concepts and laser technology. This beamline could be also used, in future, for nuclear physics experiments. In this contribution, all these facilities will be presented, as well as the most important results that have been already obtained and those that are foreseen in the future.

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