

Seminar general

The research activities at the INFN- Laboratori Nazionali del Sud, Catania



Prof. Aurora Tumino

*INFN-Laboratori Nazionali del Sud, Catania,
Italy*

*Facoltà di Ingegneria e Architettura, Università
degli Studi di Enna "Kore", Enna, Italy*

The INFN-Laboratori Nazionali del Sud (INFN-LNS) represent a well-established international research reality of INFN.

The research activities of INFN-LNS are mainly devoted to the study of nuclear reactions at low and intermediate energies, relevant for fundamental nuclear physics and nuclear and particle astrophysics. Pivotal research activity is also in multidisciplinary fields such as accelerator physics, plasma physics, nuclear physics for medicine, biology and cultural heritage, environmental and radioactive waste monitoring.

The INFN-LNS house two accelerators, the Tandem MP and the superconducting Cyclotron that can deliver light and heavy-ion beams in the regions of low and medium energy. In June 2020, the accelerators have been turned off to start the upgrade of the entire infrastructure, mainly aimed at the production of high intensity light ion beams ($12 < A < 20$, power up to 10 kW) accelerated with the Superconducting Cyclotron. The high intensity program, including the determination of the nuclear matrix elements (NME) of the double beta decay and the study of EOS for nuclear matter with large neutron content, is expected by 2025. I will give highlights of the INFN-LNS research activity with current and future programs.

Thursday, June 22nd, 2023, 10:00

The Conference Room of the Hadron Physics Department