

## The SPES project at the Legnaro National Laboratories: status and perspectives

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The SPES radioactive ion beam facility is presently under construction at the Legnaro National Laboratories. The aim of the project is to provide high intensity and high-quality beams of neutron-rich nuclei to perform forefront research in nuclear structure, reaction dynamics and interdisciplinary fields like medical, biological and material sciences. SPES is a second generation ISOL radioactive ion beam facility. It represents an intermediate step toward the future generation European ISOL facility EURISOL. The SPES project is part of the INFN Road Map for the Nuclear Physics and is strongly supported by the national laboratories for nuclear research LNL (Legnaro) and LNS (Catania). It is based on the ISOL method with a proton beam impinging on a UCx Direct Target sustaining a maximum power of 8 kW. The primary proton beam is delivered by a commercial Cyclotron accelerator with an energy of about 70 MeV and a beam current of about 200  $\mu$ A. Neutron-rich radioactive ions will be produced by Uranium fission at an expected fission rate in the target of the order of 10<sup>13</sup> fissions per second. The exotic isotopes will be re-accelerated by the ALPI superconducting LINAC at energies of 10 AMeV and higher, for masses in the region of A=130 amu, with an expected rate on the secondary target of 10<sup>8</sup> pps.

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