FAKULTÄT für PHYSIK
LUDWIG-MAXIMILIANS-UNIVERSITÄT
MÜNCHEN/GARCHING

PHYSIK-DEPARTMENT
TECHNISCHE UNIVERSITÄT MÜNCHEN
MÜNCHEN/GARCHING

Garchinger Maier-Leibnitz-Kolloquium

Donnerstag, 20.01.2022, 16^{15} Uhr

Online via ZOOM:

https://lmu-munich.zoom.us/j/98457332925?pwd=TWc3V1JkSHpyOTBPQVlMelhuNnZ1dz09

Meeting ID: 984 5733 2925
Passcode: 979953

Dr. G.A. Pablo Cirrone

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The INFN-LNS medical physics group: from conventional hadrontherapy to the installation and use of laser-driven ion beams

INFN is the Italian Research Institute devoted to nuclear, subnuclear and applied physics. It has more than twenty sections and four national laboratories and a strong connection with the Italian Physics Departments.
At INFN-LNS, one of the four great INFN Laboratories, the first Italian proton-therapy patient was treated in 2002; this event started a long chain of activities and successes in the field of Medical Applications.
This talk will report on the long-lasting INFN-LNS activity in the field of Medical Physics, starting from the first proton therapy treatment to the long activity in the development of Monte Carlo simulations, detectors and dosimetric systems, up to the activities in the laser-driven ion acceleration, transport and diagnostic for multidisciplinary applications.
The ELIMED beamline installed at the ELI-Beamlines facility (Dolnì Brezanì, CZ) now finally in the commissioning phase, will be described and the potential perspectives discussed.
At INFN-LNS a high-power short-pulse laser system will be installed in the next years. It will be dedicated to particle accelerations for medical and multidisciplinary applications and to plasma-ion interaction studies. The laser-based acceleration system will be part of the I-LUCE facility, which will also include an experimental area dedicated to nuclear fusion studies for energetic applications. I-LUCE will be an open-Users facility that will be at disposal, in the next years, to the scientific community interested in the study and use of the new laser-driven beams.

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