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PHYSICS COLLOQUIA

FRONTIERS OF EXPERIMENTAL NUCLEAR PHYSICS

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Abstract: Nuclear Physics is going through a moment of extraordinary vitality. New "windows" to observe the universe, such as gravitational waves, require a leap in the understanding of the nuclear processes underlying many aspects of the evolution of the universe. At the same time, new infrastructures allow experiments that were unthinkable just a short time ago. New accelerators have just opened or are being built all over the world. Nuclear physics experiments contribute to our understanding of fundamental physics, of the structure of hadrons and nuclei and strong interactions in complex systems.
A new awareness of the role of nuclear physics is developing in society: the need to minimize CO_2 emissions has brought back interest in nuclear energy, and innovation continues in nuclear techniques for medicine. Space exploration is also revived: trips to Mars, space bases... all require the protection of astronauts from radiation.
Nuclear Physics is fundamental to our understanding of the Universe and to our quality of life, and the new experimental opportunities allow us to be optimistic about the possibility of responding to these needs. An exciting period is opening.

February 12th 2026, 14.30

Grassano Room