

NUCLEAR PHYSICS UNDER THE LOW-ENERGY, HIGH INTENSITY FRONTIER

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ECT* - Villa Tambosi, Villazzano

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TOPIC

One particularly exciting frontier of nuclear physics concerns the study of systems in which particles interact with relatively low-energy but extraordinarily high-intensity fields. In such environments, new physics or phenomena not accessible by conventional accelerations can be probed with proper arrangements of high-power laser systems--which are capable to generate ultra-intensive beams of electrons, neutrons, ions and gamma-photons. As an example, in an intense environment, multiparticle processes rival or even surpass traditional one-to-one interactions, opening the door to groundbreaking discoveries. This workshop will provide a forum for the exchange of novel ideas in nuclear and particle physics, particularly those involving high-power laser systems. We aim to foster interdisciplinary dialog, including the exploration of experimental feasibility with insights from leading experts in laser-plasma physics, with the ultimate goal of stimulating collaborative experimental proposals.

ECT* Director: Prof. Ubirajara van Kolck

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