

Nuclear Physics from Atomic Spectroscopy

April 11-15, 2022

ABSTRACT

Atomic and molecular spectroscopy offer unique ways to obtain information about the structure of nuclei, nucleons, and fundamental particles: It is the main tool to measure the charge radius and electromagnetic moments of few- and many-nucleon systems, including exotic ones. Nuclear theory has parallelly undergone a number of important developments: Our knowledge of the many-body nuclear Hamiltonian and electroweak currents has dramatically improved while at the same time quantum many-body calculations have reached a wide range of nuclei and a variety of nuclear properties. This workshop will focus on the interplay between experiment and theory in both atomic, molecular and nuclear physics, explore the potential for further developments in experiment and theory that can provide insights into the structure of the nuclear interaction and the coupling of nuclei to external probes. Moreover, a robust and solid understanding of nuclear structure and dynamics will enable the identification of new physics in future experiments.

Organizers

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Key Speakers

Robert **Berger** (PU Marburg), Anastasia **Borschevsky** (U Groningen), Ruben **DeGroot**e (KU Leuven), Jordy **de Vries** (Amsterdam U), Jacek **Dobaczewski** (Univ. of York), Gordon **Drake** (Windsor U), Jon **Engel** (UNC), Kieran **Flanagan** (Manchester U), Heiko **Hergert** (MSU), Nick **Hutzler** (CalTech), Simone **Li Miuli** (Mainz U), Emanuele **Mereghetti** (LANL), Kei **Minamisono** (MSU), Wilfried **Nörtershäuser** (TU Darmstadt), Krzysztof **Pachucki** (Warsaw U), Maria **Piarulli** (Washington U), Randolph **Pohl** (Mainz U), P.G. **Reinhard** (Erlangen U), Mariana **Safronova** (U Delaware), Wei **Sun** (CAS-APM), Silviu **Udrescu** (MIT)

Director of the ECT*: Professor Gert Aarts

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