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Precision ion trap measurements in nuclear physics

JENS DILLING, TRIUMF and University of British Columbia

Nuclear Physics is a fundamental science discipline, which started over 100 years ago, and is concerned with the understanding of how nuclear matter is held together in its innermost and how its structures behave and evolve. Recent progress in experimental and theoretical techniques has advanced the field significantly, but some questions remain. Moreover, new nuclear phenomena have been discovered, this includes so-called nuclear halo nuclei and the appearance of different nuclear shells. Ion trap technologies, originally developed for atomic and molecular physics, have been adapted to the specific requirements stemming from nuclear physics, for example, to couple ion traps to accelerators and achieve very high speed and efficiencies. In this talk I will show some examples and technical developments pertaining to nuclear physics questions and phenomena and how they are addressed with precision ion trap measurements.