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## Low-energy experiments in search for new physics

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The high measurement precision attainable in experiments within the so-called low-energy, precision frontier can be employed to carry out a range of tests of fundamental physics and search for beyond-standard-model physics. After a brief overview of precision, low-energy tests, I will discuss two related experiments. In one of these, we study isotope shifts in an optical transition in ytterbium (Yb) [1], to check a hint for new physics that resulted from precision spectroscopy in ionic Yb [2] and help identify the origin of the possible new-physics signal. In another work, we study the effects of the weak force in atoms, through measurements of atomic parity violation in Yb [3]. Within this project, we aim to provide a test of the electroweak sector of the standard model, as well as study intra-nuclear weak forces and the distribution of neutrons in the Yb nucleus.

**Scientific topic** 

Symmetries

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