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【371】Muonic Atom Spectroscopy: Preparations Regarding a Measurement of the Charge Radius of Radium

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Atomic parity violation experiments are one attempt to look for physics beyond the standard model. An experiment to measure the atomic parity violation electric dipole contribution to the energy transition 7S1/2 and 6D3/2 in singly ionised Radium-226 is currently ongoing. The extraction of the atomic parity violating signature for the measurement requires precise calculations based on quantities like the indeterminate radius of Radium-226. Muonic atom spectroscopy at PSI enables a precise nuclear charge radius determination. Previous muonic atom spectroscopy experiments at PSI were designed for targets containing at least several grams. Current safety regulations permit only an amount of a few µg of Radium-226. In this contribution, newly developed techniques and preparations for low amount targets will be presented.

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