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[311] Precision Spectroscopy of Muonium

Muonium, the purely leptonic bound state of an anti-muon and an electron, is an excellent candidate to probe bound state QED and search for new physics beyond the Standard Model. I will introduce MuMASS, aiming to improve the Muonium 1S-2S transition by three orders of magnitude. I will present our latest experimental progress and results, touching on the New Physics reach of the measurements, as well as showing up to date theoretical calculations for the transition frequencies.

Theoretical Work

Authors:CORTINOVIS, Irene (ETH Zurich (CH));CRIVELLI, Paolo (ETH Zurich (CH))Presenter:CORTINOVIS, Irene (ETH Zurich (CH))Session Classification:Nuclear, Particle- & Astrophysics (TASK - FAKT)

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