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## Laser spectroscopy of the ground-state hyperfine splitting in muonic hydrogen

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Laser spectroscopy of muonic hydrogen ( $\mu\text{p}$ ) is an ideal platform to probe the proton structure. At the Paul Scherrer Institute, the CREMA collaboration aims to measure the ground-state hyperfine splitting (1S-HFS) with a relative accuracy of  $10^{-6}$  to infer the proton structure contribution (two photon exchange correction) with a relative accuracy of  $10^{-4}$ . This opens the way for testing the hyperfine splitting in regular hydrogen down to the  $10^{-8}$ – $10^{-9}$  level, which could reveal potential BSM effects.

In this talk, I will explain the measurement principle and the present state of our experiment.

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