

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

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**On behalf of the CREMA collaboration**

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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 about  $1 \times 10^{-6}$  to infer the proton structure contribution with a relative uncertainty of about  $1 \times 10^{-4}$ . For this measurement, we are developing a pulsed laser system with the aim of delivering 3 mJ pulses at a wavelength of  $6.8 \mu\text{m}$  stochastically triggered by the arrival of muons. We report on the measurement principle and the current status of the hardware development.