

FAMU: high precision measurement of the muonic hydrogen hyperfine splitting.

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Summary

The precise measurement of the hyperfine splitting of the muonic-hydrogen atom ground state will be performed by exploiting the energy dependence of the transfer rate from hydrogen to heavier gases. The development of this technique, of the gas target and of the X-ray detection system will pave the way for new and innovative experiments based on muon spectroscopy which could lead to discover and study physics beyond the standard model. Preliminary results of the measurement of the transfer rate from hydrogen to heavier gases will be presented together with detectors and target characterization.

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