## Physics of fundamental Symmetries and Interactions - PSI2019



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## The proton radius puzzle

Tuesday 22 October 2019 11:00 (45 minutes)

By means of laser spectroscopy we have measured several 2S-2P transitions in muonic hydrogen. From these measurements we have extracted a proton charge radius 20 times more precise than obtained from electron-proton scattering and hydrogen high-precision laser spectroscopy but at a variance of 7 sigma from these values. This discrepancy referred to as the "proton radius puzzle"has prompted various investigations in the context of bound-state QED, proton structure, atomic spectroscopy, BSM physics and scattering experiments. The status of the "proton radius puzzle" will be presented.

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