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Nuclear structure corrections in light muonic atoms

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The measurement of the Lamb shift in muonic hydrogen and the subsequent emergence of the proton radius puzzle have motivated an experimental campaign devoted to other light muonic atoms, such as muonic deuterium and helium. For these systems, nuclear structure corrections are the largest source of uncertainty and constitute the bottle-neck for exploiting the experimental precision to extract precise nuclear radii. Nuclear theory can contribute by simulating the dynamics of few nucleons interacting with the muon and by assessing related uncertainties. Utilizing techniques and methods developed in few-body physics, we have been able to provide the so far most precise determination of nuclear structure corrections in light muonic atoms.
I will review our recent calculations and present an outlook for the future.

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