

Nuclear contributions to two-photon exchange in muonic deuterium

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Nuclear structure effects on the energies of light (ordinary and muonic) atoms are the dominant source of uncertainty in the determination of the nuclear charge radii and other properties of light nuclei [1], [2]. The most important of these effects are the two-photon exchange (TPE) contributions. The present method of choice for studying them is ab initio theoretical calculations. In this talk, I will consider TPE contributions to the energy spectra of muonic deuterium, concentrating on recent results obtained within the framework of pionless effective field theory [3,4].

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[4] V. Lensky, F. Hagelstein and V. Pascalutsa, Phys. Lett. B **835** (2022), 137500 [arXiv:2206.14066 [nucl-th]].

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