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Precision laser spectroscopy of light exotic isotopes

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Newly developed techniques for laser spectroscopy of very light isotopes and progress in atomic theory calculations of few-electron systems has allowed the determination of nuclear charge radii of helium, lithium and beryllium isotopes during the last years. These techniques had to provide high accuracy but at the same time sufficient efficiency to study very exotic nuclei that are produced only in minute ammounts. In this talk, I will shortly summarize the results from these techniques concerning the ground state properties of helium and lithium isotopes. Moreover, the latest measurements on beryllium isotopes are presented and the conclusions on the nuclear structure of the isotopes Be-7,9,10 and the one-neutron halo isotope Be-11 will be discussed.

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