

QED effects in heavy ions and atoms

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The current status of quantum electrodynamic (QED) theory of heavy ions and atoms is reviewed. The theoretical results for the binding energies, the hyperfine splitting, and the bound-electron g -factor in heavy few-electron ions are compared with available experimental data. A special attention is focused on tests of quantum electrodynamics at strong fields and on determination of the fundamental constants. A recent progress on calculations of the QED corrections to the parity nonconserving 6s-7s transition amplitude in neutral Cs is also discussed.