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Calculation of the binding energies of berylliumlike ions

In this work the calculations of the binding energies of four-electron (berylliumlike) ions are performed for the wide range of the nuclear charge values $Z = 18 - 96$.

The calculations incorporate the first two orders of the rigorous QED perturbation theory. The third and higher orders of the interelectronic interaction are calculated within the Breit approximation by means of the configuration-interaction Dirac-Fock-Sturm method. In addition, the effects of nuclear recoil and nuclear polarization are taken into account.

Primary author: Mr MALYSHEV, Aleksei (Department of Physics, St. Petersburg State University)

Co-authors: Mr VOLOTKA, Andrey (TU Dresden); Mr GLAZOV, Dmitry (Saint Petersburg State University); Dr PLUNIEN, Günter (TU Dresden); Prof. TUPITSYN, Ilya (St. Petersburg State University); SHABAEV, Vladimir (GSI, Darmstadt)

Presenter: Mr MALYSHEV, Aleksei (Department of Physics, St. Petersburg State University)