Correlation and Relativistic Effects in Multiply Charged Helium Like Ions

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The contribution of the relativistic corrections in the effective Breit-Pauli Hamiltonian to the energy of Helium like ions have been investigated: Orbit-orbital interactions, the contact interaction of the Pauli principle, the mass velocity correction. The role of the mass correlation and polarization effects in the relativistic corrections have been studied. The calculations were made through the inclusion of the correlation effects as perturbation correction in the variational-perturbation procedure. The results were obtained when considering all helium like ions with atomic number $Z = 2 - 118$, and nuclides of all existing isotopes.