



Contribution ID: 91

Type: **not specified**

## Relativistic calculations of the isotope shifts in highly charged Li-like ions

High-precision calculations of the isotope shifts in highly charged Li-like ions are performed. The mass shift contributions are calculated by merging the perturbative and large-scale configuration-interaction Dirac-Fock-Sturm (CI-DFS) methods. The field shift contributions are evaluated by the CI-DFS method including the electron-correlation, Breit, and QED corrections. The nuclear deformation and nuclear polarization corrections to the isotope shifts in Li-like neodymium, thorium, and uranium are also considered. The results of the calculations are compared with the theoretical values obtained with other methods.

**Primary author:** Ms ZUBOVA, Natalia (St. Petersburg State University)

**Co-authors:** Dr VOLOTKA, A.V. (Institut für Theoretische Physik, TU Dresden, St. Petersburg State University); BRANDAU, Carsten (GSI, Darmstadt); Dr PLUNIEN, Gunter (Institut für Theoretische Physik, TU Dresden); Prof. TUPITSYN, I.I. (St. Petersburg State University); STÖHLKER, Thomas (GSI, Darmstadt); SHABAEV, Vladimir (GSI, Darmstadt); KOZHEDUB, Yury (GSI, Darmstadt)

**Presenter:** Ms ZUBOVA, Natalia (St. Petersburg State University)