Contribution ID: **102** Type: **poster**

# Relativistic calculations of the isotope shifts in highly charged ions

*Monday, 19 September 2016 18:00 (2 hours)*

High-precision measurements of the isotope shifts in heavy ions, that are anticipated at the FAIR facilities, will give a unique possibility for tests of QED in a new region: strong-coupling regime beyond the Furry picture. In addition, these studies will allow determination of the nuclear charge radius differences for radioactive isotopes with a lifetime longer than about 1 min. These investigations require high-precision calculations of the isotope shifts, including the relativistic and QED effects. Such calculations were performed for Li-like ions in Ref. [1] and for B-like ions in Ref. [2].

[1] N. A. Zubova et al., Phys. Rev. A 90, 062512 (2014).
[2] N. A. Zubova et al., Phys. Rev. A 93, 052502 (2016).

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

**Co-authors:** MALYSHEV, Aleksei (Department of Physics, St. Petersburg State University); BRANDAU, Carsten (GSI, Darmstadt); Prof. TUPITSYN, Ilya (St.Petersburg State University); STÖHLKER, Thomas (GSI, Darmstadt); SHABAEV, Vladimir (GSI, Darmstadt); KOZHEDUB, Yury (GSI, Darmstadt)

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

**Session Classification:** Poster Session and Coffee