Contribution ID: **71** Type: **Poster**

【474】Electronic transitions in Rb2+ dimers solvated in helium

Tuesday, 31 August 2021 19:30 (1 minute)

We reported depletion spectra of Rb2+ complexed with up to ten Helium atoms. The ions were formed by doping helium nanodroplets in a pickup cell filled with low-density Rb vapor and subsequent electron ionization. Two absorption bands were observed between 920 and 250 nm, due to transitions into the 12Σu+ and 12Πu states. The transitions are blue- and redshifted, respectively, when the number of He atoms is increased. Spectroscopic constants and the spin–orbit (SO) splitting are deduced for the bound 12Πu state. All experimental findings are supported by ab initio calculations, using CCSD method for modeling ground electronic state, and EOMCCSD and MRCI for electronically excited states.

Primary authors: Mr ALBERTINI, Simon (Institut für Ionenphysik und Angewandte Physik, Universität Innsbruck); Ms GHAVIDEL, Elham (Institut für Ionenphysik und Angewandte Physik, Universität Innsbruck); Dr MARTINI, Paul (Institut für Ionenphysik und Angewandte Physik, Universität Innsbruck); Prof. ECHT, Olof (University of New Hampshire); Dr ONČÁK, Milan (Institut für Ionenphysik und Angewandte Physik, Universität Innsbruck); Prof. SCHEIER, Paul (Institut für Ionenphysik und Angewandte Physik, Universität Innsbruck); Mr SCHILLER, Arne (Institut für Ionenphysik und Angewandte Physik, Universität Innsbruck); Dr SCHÖBEL, Harald (Department Biotechnology & Food Engineering, Management Center Innsbruck)

Presenter: Ms GHAVIDEL, Elham (Institut für Ionenphysik und Angewandte Physik, Universität Innsbruck)

Session Classification: Poster Session

Track Classification: Atomic Physics and Quantum Optics