



Contribution ID: 164

Type: Talk

## **【429】 Measurement of the dynamic polarizability of Dy atoms near the 626-nm intercombination line**

*Wednesday, September 1, 2021 4:15 PM (15 minutes)*

We report on measurements of the anisotropic dynamical polarizability of Dy on both sides of the 626-nm intercombination line, employing modulation spectroscopy in a one-dimensional optical lattice. To eliminate large systematic uncertainties, we use K as a reference species with accurately known polarizability. Our derived natural linewidth is in excellent agreement with literature values, which shows the accuracy of our method. In addition we demonstrate optical dipole trapping on the intercombination line, confirming the expected long lifetimes and low heating rates. This provides an additional tool to tailor optical potentials for Dy atoms and for the species-specific manipulation of atoms in the Dy-K mixture.

**Primary authors:** KREYER, Marian; HAN, Jeong Ho (Institut für Experimentalphysik, Universität Innsbruck, 6020 Innsbruck, Austria); RAVENSBERGEN, Cornee (Institut für Experimentalphysik, Universität Innsbruck, 6020 Innsbruck, Austria); CORRE, Vincent (Institut für Experimentalphysik, Universität Innsbruck, 6020 Innsbruck, Austria); SOAVE, Elisa (Institut für Experimentalphysik, Universität Innsbruck, 6020 Innsbruck, Austria); KIRILOV, Emil (Institut für Experimentalphysik, Universität Innsbruck, 6020 Innsbruck, Austria); GRIMM, Rudolf (Institut für Quantenoptik und Quanteninformation (IQOQI), Österreichische Akademie der Wissenschaften, 6020 Innsbruck, Austria)

**Presenter:** KREYER, Marian

**Session Classification:** Atomic Physics and Quantum Optics

**Track Classification:** Atomic Physics and Quantum Optics