

BOHENDI@FELIX: PROBING THE FAR-INFRARED FINGERPRINT OF SMALL CLUSTERS IN HELIUM NANODROPLETS WITH A FREE ELECTRON LASER

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Recently, we have installed a helium nanodroplet machine [1,2] at the free electron beamline FELIX in Nijmegen. The current setup allows to study neutral molecules and molecular complexes in the full spectral range from 500–3000 cm<sup>-1</sup>. First proof of principle experiments using the strong absorber SF<sub>6</sub> were used to verify the overall alignment between helium nanodroplet beam and the FELIX radiation source.

Applications so far included the study of small water clusters and the investigation of microsolvation of small solutes. These results will be presented and compared to recent theoretical predictions of the Bowman group.[3]

[1] K. von Haeften et al., Phys. Rev. B. 73, 054502 (2006)

[2] Choi et al., Int. Rev. Phys. Chem. 25, 15 (2006)

[3] Samantha et al., Acc. Chem. Res. 47, 2700 (2014)