

20th June 2013 – 10:00 a.m.
CFEL-bldg. 99, seminar room I and II (EG.076/078)

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Ultrafast electron diffraction from aligned molecules

We have experimentally demonstrated 3D imaging of a symmetric top molecule by using a femtosecond laser to align the molecules, and a femtosecond electron pulse to capture the diffraction pattern while the molecules are aligned. The 3D structure of the molecule was retrieved by combining the information from multiple diffraction patterns corresponding to different projections of the molecule. We are currently working to extend this method to more complex molecules, and to image structural dynamics on femto-second time scales.

Experimental reconstruction of the structure of the CF₃I molecule (blue). Model of the same molecule (inset).

