Physikalisches Institut
Fakultät für Mathematik und Physik
Albert-Ludwigs-Universität Freiburg

Quantum Efficiency Seminar und Colloquium

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Following a chemical reaction using high-harmonic interferometry

High harmonic generation occurs when in a strong laser field an atom or molecule is ionized and the photoelectron recollides with the ion. This process is not only a convenient source for ultrashort XUV-laser pulses, but can be used to follow in detail the electron dynamics in the strong field as well as to obtain information about the ionized particle. Here a new experiment [1] is discussed, where the high harmonic generation was used to monitor the dissociation of a bromium molecule after photoexcitation in real time. As the technique makes use of interference effects, the observed process could also be interpreted as a loss of coherence of the molecular wavefunction upon dissociation.

[1] H. J. Wörner et al., NATURE 466, 604 (2010)

Date: **Tuesday, June 19th, 2012 14:15 pm**
Location: **Lecture Hall 1, Hermann-Herder-Str. 3, Freiburg**

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