

## Seminar über Ultrafast Science and Technology

**Referent:** Dr. Bernhard Lang, Department of Physical Chemistry, University of Geneva

**Titel:** Model-free decomposition of complex transient spectra: photometrics of ultrafast broadband transient absorption

Broadband transient absorption is a widely used tool in the domain of ultrafast spectroscopy. However, standard chemometry methods for decomposing spectra into components associated to the involved species like global and target analysis or singular value decomposition cannot be used when the spectral shapes of these components change with time. For instance, effects of internal conversion, vibrational cooling or solvation dynamics may be superimposed to the dynamics of interest. In other cases, as for example ultrafast isomerization, the observed spectral dynamics may display the course of the reaction itself. Methods are discussed how complex spectra can be disentangled for problems where the time and spectral coordinates are not separable, without imposing a model for the underlying reaction dynamics. These methods need photometrically correct spectra as input where all systematic and statistical errors are known and their magnitude can be quantified.

**Zeit:** Donnerstag, 24.05.2018, 11:15 Uhr

**Ort:** Hörsaal B116, Gebäude exakte Wissenschaften, Sidlerstrasse 5, Bern, Schweiz