Julius-Maximilians-
UNIVERSITÄT
WÜRZBURG

FOR 1809

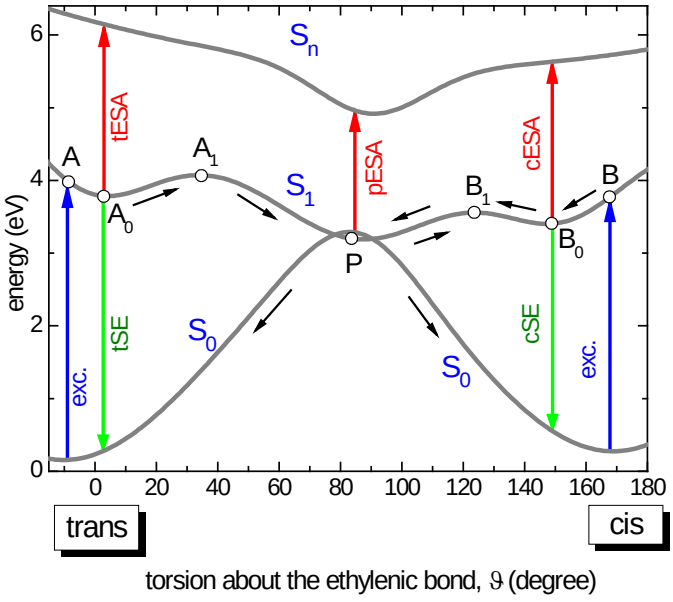
Donnerstag, 18.10.2018 **Hörsaal C, Chemie Zentralbau, 17:15 Uhr**

Sprecher: **Nikolaus Ernsting**
Humboldt-Universität zu Berlin

Thema: **New views through old holes: looking for the perpendicular "phantom" state of photoisomerizing stilbene**

Abstract:

In the photoisomerization path of stilbene, a perpendicular state P on the S_1 potential energy surface is expected just before internal conversion through a conical intersection S_1/S_0. The situation is depicted schematically below:



For decades the observation of P was impossible because of a short lifetime τ_P in combination with slow population flow over a barrier (A_1 or B_1 in the figure). But these limitations can be overcome by ethylenic substitution.

Comparing stilbene and 1,2-dimethyl-stilbene with precision transient absorption spectroscopy in the range 250-800 nm, we determine the electronic properties of P.

By substitutions – also at the phenyl moieties - the excited *trans*, *cis*, and *perpendicular* forms are stabilized on a >10 ps timescale. Their excited-state absorption bands (ESA in the figure) are used for resonance in fs stimulated Raman spectroscopy. In this way we find several new phenomena during the photoreaction.

Organisation: C. Lambert

Kontakt: Tobias Brixner, Institut für Physikalische und Theoretische Chemie,
brixner@phys-chemie.uni-wuerzburg.de

Informationen zur Forschergruppe unter:
http://www.for1809.uni-wuerzburg.de