Excited-state processes and electron transfer
Transient absorption spectroelectrochemistry (TA-SEC)

Dye-sensitized Photoelectrochemical Cells

Solar fuels such as hydrogen (H2) represent a promising alternative to the currently used fossil fuels. One approach to produce H2 using solar energy and water relies on the dye-sensitized photoelectrochemical cells (DSPEC) technology. Such a device combines a photoanode where under visible light irradiation water oxidation occurs to supply the photoanode with H+ and e−, where H2 is produced. Our groups is involved in the design and the applied potential of 0.05 V vs RHE for NiO electrodes where the dye is sensitized with novel dye-catalyst evolving photocathodes based on cobalt catalysts.

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