

Kieler Woche 2019

Internationale Gastvorträge

auf dem Campus

Mittwoch, 26. Juni 2019

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Photoswitching kinetics of indolyl fulgimide immobilized on silicon surfaces

Photochromic molecules are molecules capable of changing conformation upon absorption of electromagnetic radiation, a unique property that is exploited in thin film technology down to one self-assembled monolayer.

In this talk I will focus on the photo kinetics of indolyl fulgimide compounds covalently immobilized on a atomically flat functionalized silicon surface.¹ After a brief description about the realization of the monolayer and the photoswitching readout method, based on *calibrated* IR spectroscopy to determine the exact isomeric composition of the monolayer, I will discuss factors (surface density of immobilized molecules, light polarization) that are influencing the photo isomerization cross section and photo stationary states (PSS). The conformation of the fulgimide groups on the surface will be discussed based on cross measurement measurements with polarized light. It will also be shown that a quite significant enhancement of the photo kinetics is achieved by adsorbing gold nanoparticles on the surface.

(1) Henry de Villeneuve C. et al., Quantitative IR Readout of Fulgimide Monolayer Switching on Si(111) Surfaces, *Advanced Materials*, **2013**, 25, 416-421.

(2) Klaes, S. et al., Influence of Light Polarization on Photocommutation of Fulgimide Monolayers on Surfaces, *J. Phys. Chem. C*, under review

Der Vortrag beginnt um **13:00 Uhr** im
Hörsaal A des Audimax (CAP2)