

TUEIIe • Poster II e - Chemical Physics

Poster Area

18:00–20:00

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TUEIIe.1 • 18:00

Electron Injection Dynamics of Perylene Derivatives into ZnO and TiO₂ Particle Films, *J. Szarko, A. Neubauer, L. Socaciu-Siebert, A. Bartelt, F. Birkner, K. Schwarzburg, and Rainer Eichberger*; *Dynamics of Interfacial Reactions-SE 4, Hahn-Meitner-Institute Berlin, Glienicker Strasse 100, 14109 Berlin, Germany.*

The injection dynamics two perylene dyes bound to ZnO and TiO₂ nanoparticles was investigated with femtosecond transient absorption simultaneously monitoring the rise of the cationic and the decay of the excited state.

TUEIIe.2 • 18:00

Coherent phonons in cyanine dye monomers and J-aggregates, •*Tersilla Virgili¹, Samira Ceccarelli², Larry Luer¹, Guglielmo Lanzani¹, Giulio Cerullo¹, and David G. Lidzey²*; ¹*IFN, INFN CNR Dipartimento di Fisica, Politecnico di Milano, P.zza Leonardo Da Vinci 32, 20132 Milano, Italy,* ²*Department of Physics and Astronomy, University of Sheffield, Hicks Building, Hounsfield Road, Sheffield S37RH United Kingdom.*

Using pump-probe spectroscopy, we investigate coherent oscillations in cyanine dye, in monomeric form and in J-aggregate. We identify a low energetic intramolecular mode amplified in the J-aggregate film producing a modulation of the excitonic coupling.

TUEIIe.3 • 18:00

Ultrafast Dynamics of Photoexcited Sodium-Water Clusters, •*Hongtao Liu¹, Jan Philippe Müller¹, Claus Peter Schulz¹, Christian Schröter¹, Nick Zhavoronkov¹, and Ingolf Volker*

Hertel^{1,2}; ¹Max-Born-Institut, 12489 Berlin, Germany, ²Fachbereich Physik, Freie Universität Berlin, 14195 Berlin, Germany.

The lifetimes of the first electronically excited state of Na(H₂O)_n clusters (n up to 40) are measured using two colour pump-probe spectroscopy. The measured lifetimes are compared to those of water cluster anions.

TUEIIe.4 • 18:00

Electronic Excitations in Pentacene Films: Singlet versus Triplet Dynamics, *Henning Marciniak¹, Bert Nickel², and Stefan Lochbrunner¹*; ¹*Institut für Physik, Universität Rostock, Universitätsplatz 3, 18055 Rostock, Germany,* ²*Fakultät für Physik und CeNS, Ludwig-Maximilians-Universität, Geschwister-Scholl-Platz 1, 80539 München, Germany.*

Polarization dependent femtosecond spectroscopy shows that photoexcited excitons in microcrystalline pentacene films decay within 70 fs to a non fluorescing singlet species while triplets are formed in a small fraction on the picosecond time scale.

TUEIIe.5 • 18:00

Coherent Control of the Exciton Dynamics in the FMO Protein, •*Maaïke Milder¹, Ben Brueggemann², Mette Miller³, and Jennifer Herek^{1,4}*; ¹*FOM-Institute for Atomic and Molecular Physics (AMOLF), Amsterdam, The Netherlands,* ²*Humboldt Universität, Institut für Physik AG Halbleitertheorie, Berlin, Germany,* ³*University of Southern Denmark, Department of Biochemistry and Molecular Biology, Odense, Denmark,* ⁴*Optical Sciences Group, MESA+ Institute for NanoTechnology, University of Twente, Enschede, The Netherlands.*

We have achieved first steps toward coherent control of excitonic energy migration in the FMO pigment-protein complex, by combining femtosecond pulse shaping with a feedback loop using an evolutionary algorithm, as well as complementary simulations.