

Research Project

Molecular assemblies on semiconductors and insulating surfaces

Project funded by own resources

Project title Molecular assemblies on semiconductors and insulating surfaces

Principal Investigator(s) Glatzel, Thilo ; Meyer, Ernst ;

Project Members Hinaut, Antoine ; Jöhr, Res ; Pawlak, Rémy ;

Organisation / Research unit

Departement Physik / Nanomechanik (Meyer)

Project Website <http://www.molsurf.eu>

Project start 01.09.2011

Probable end 30.06.2016

Status Completed

The main aim of the project is to investigate processes taking place around the molecular assemblies formed on insulating and semiconducting substrate under irradiation by photons. The molecular assemblies grown either by evaporation or by electro-spray deposition will be examined by scanning probe methods, especially non contact atomic force microscopy (NC-AFM) and Kelvin probe force microscopy (KPFM) in order to determine dependence of the electrical properties of the assemblies of their morphology, and exploit that dependence to control the electrical properties of the assemblies. Within the project a number of molecule/substrate systems will be tested in order to find the most suitable ones for examination of the evolution of excitation in the assemblies induced by the incoming light. As the result we hope to gain deeper understanding of charge evolution and transport in the assembly which is crucial in many fields of the nanotechnology and research related to development of light-harvesting media.

Financed by

Other funds

Add publication

Published results

2093627, Henning, Alex; Günzburger, Gino; Jöhr, Res; Rosenwaks, Yossi; Bozic-Weber, Biljana; Housecroft, Catherine E; Constable, Edwin C; Meyer, Ernst; Glatzel, Thilo, Kelvin Probe Force Microscopy of Nanocrystalline TiO₂ Photoelectrodes, 2190-4286, Beilstein Journal of Nanotechnology, Publication: JournalArticle (Originalarbeit in einer wissenschaftlichen Zeitschrift)

3120911, A. Henning, G. Günzburger, R. Jöhr, Y. Rosenwaks, B. Bozic-Weber, C. E. Housecroft, E. C. Constable, E. Meyer and T. Glatzel, Kelvin probe force microscopy of nanocrystalline TiO₂ photoelectrodes, Beilstein Journal of Nanotechnology, Publication: JournalArticle (Originalarbeit in einer wissenschaftlichen Zeitschrift)

3347087, Olszowski, Piotr; Zajac, Lukasz; Godlewski, Szymon; Such, Bartosz; Joehr, Res; Glatzel, Thilo; Meyer, Ernst; Szymonski, Marek, Role of a Carboxyl Group in the Adsorption of Zn Porphyrins on TiO₂(011)-2x1 Surface, 1932-7447, The Journal of Physical Chemistry C, Publication: JournalArticle (Originalarbeit in einer wissenschaftlichen Zeitschrift)

3347088, Joehr, Res; Hinaut, Antoine; Pawlak, Remy; Sadeghi, Ali; Saha, Santanu; Goedecker, Stefan; Such, Bartosz; Szymonski, Marek; Meyer, Ernst; Glatzel, Thilo, Characterization of individual molecular adsorption geometries by atomic force microscopy: Cu-TCPP on rutile TiO₂ (110), 0021-9606 ; 1089-7690, Journal of Chemical Physics, Publication: JournalArticle (Originalarbeit in einer wissenschaftlichen Zeitschrift)

3347092, Godlewski, Szymon; Prauzner-Bechcicki, Jakub S; Glatzel, Thilo; Meyer, Ernst; Szymoński, Marek, Transformations of PTCDA structures on rutile TiO₂ induced by thermal annealing and intermolecular forces, 2190-4286, Beilstein Journal of Nanotechnology, Publication: JournalArticle (Originalarbeit in einer wissenschaftlichen Zeitschrift)

3395478, Szymon Godlewski; Jakub S. Prauzner-Bechcicki; Thilo Glatzel; Ernst Meyer; Marek Szymonski, Transformations of PTCDA structures on rutile TiO₂ induced by thermal annealing and intermolecular forces, 2190-4286, Beilstein Journal of Nanotechnology, Publication: JournalArticle (Originalarbeit in einer wissenschaftlichen Zeitschrift)

3395482, Jöhr, Res; Hinaut, Antoine; Pawlak, Rémy; Sadeghi, Ali; Saha, Santanu; Goedecker, Stefan; Such, Bartosz; Szymonski, Marek; Meyer, Ernst; Glatzel, Thilo, Characterization of individual molecular adsorption geometries by atomic force microscopy: Cu-TCPP on rutile TiO₂ (110), The Journal of Chemical Physics, Publication: JournalArticle (Originalarbeit in einer wissenschaftlichen Zeitschrift)

3395483, Johr, Res; Zajac, Lukasz; Gunzburger, Gino; Hug, Hubert; Such, Bartosz; Szymonski, Marek; Meyer, Ernst; Glatzel, Thilo, Impact of photocatalysis on carotenoic acid dye-sensitized solar cells, 2299-3940, Hybrid Materials, Publication: JournalArticle (Originalarbeit in einer wissenschaftlichen Zeitschrift)

3395488, Piotr Olszowski; Lukasz Zajac; Szymon Godlewski; Bartosz Such; Res Jöhr; Thilo Glatzel; Ernst Meyer; Marek Szymonski, Role of a Carboxyl Group in the Adsorption of Zn Porphyrins on TiO₂(011)-2x1 Surface, The Journal of Physical Chemistry C, Publication: JournalArticle (Originalarbeit in einer wissenschaftlichen Zeitschrift)

Add documents

Specify cooperation partners