

DFG Priority Program 1362
Porous Metal-Organic Frameworks

March, 22 - 23, 2010

Topical Workshop for PhD students

Adsorption and Diffusion in MOFs

Institut für Nichtklassische Chemie e.V. (INC)

and

Institut für Experimentelle Physik I, Universität Leipzig (EP I)

Room: Wislicenus-Hörsaal der Fakultät für Chemie und Mineralogie,
Johannisallee 29, Leipzig, Germany

March 22, 2010

Morning session – presentations:

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| 09:00 – 09:10 | Introduction (Prof. Dr. R. Staudt, Prof. Dr. H. Krautscheid – Dekan der Fakultät für Chemie und Mineralogie) |
| 09:10 – 09:55 | Prof. Dr. R. Staudt, INC:
Possibilities and Limits for the Determination of Adsorption Data – Pure Gases and Gas Mixtures |
| 09:55 – 10:40 | Dr. M. Thommes, Quantachrome:
Analysis of Adsorption Data |
| 10:40 – 11:10 | Coffee break |
| 11:10 – 11:55 | Dr. J. Gascon, TU Delft:
Metal-Organic Frameworks: Separation and Catalysis |
| 11:55 – 12:55 | Lunch break |

Afternoon session Group A – Lab tour and Exercises – INC:

- 12:55 – 15:30 Exercises:
Characterization of MOF by Adsorption,
Equilibrium measurements (Pure Gas and Mixed Gas Adsorption)
- 15:30 – 16:00 Coffee break
- 16:00 – 18:00 Exercises:
Equilibrium measurements (Pure Gas and Mixed Gas Adsorption),
Breakthrough Measurement (Adsorption in a fixed bed)

Afternoon session Group B – Lab tour and Exercises – EP I

- 13:00 – 14:00 Exercises:
Lab tour NMR, IR and Interference Microscopy
- 14:15 – 16:45 Consulting and Exercises:
Setup of Diffusion experiments by NMR, IR Microscopy and
Interference Microscopy

March 23, 2010

Morning session – presentations

- 09:00 – 09:45 Prof. Dr.-Ing. E. Klemm, University of Stuttgart:
Catalysis and Diffusion in MOFs
- 09:45 – 10:15 Dr. C. Chmelik, University of Leipzig:
Introduction to Diffusion Studies in MOFs by IR and Interference
Microscopy
- 10:15 – 10:45 Coffee break
- 10:45 – 11:15 PD Dr. F. Stallmach, University of Leipzig:
NMR Diffusion Studies in MOFs – Introduction and experiments
- 11:15 – 12:00 Dr. C. Chmelik, University of Leipzig:
Introduction to Diffusion Studies in MOFs by IR and Interference
Microscopy
- 12:00 – 13:00 Lunch break

Afternoon session Group B – Lab tour and Exercises – INC

- 12:55 – 15:30 Exercises:
Characterization of MOF by Adsorption,
Equilibrium measurements (Pure Gas and Mixed Gas Adsorption)
- 15:30 – 16:00 Coffee break
- 16:00 – 18:00 Exercises:
Equilibrium measurements (Pure Gas and Mixed Gas Adsorption),
Breakthrough Measurement (Adsorption in a fixed bed)

Afternoon session Group A – Lab tour and Exercises – EP I

- 13:00 – 13:45 PD Dr. F. Stallmach, University of Leipzig:
Analysis of NMR Diffusion Measurements
- 14:00 – 15:00 Exercises:
Lab tour NMR, IR and Interference Microscopy
- 15:15 – 16:45 Consulting and Exercises:
Diffusion studies by PFG NMR, IR Microscopy and Interference
Microscopy