Workshop SFB 418

“Irradiation-Assisted Methods of Formation and Modification of Metal Nanoparticles in Glasses”

**Place:**
Max Planck Institute of Microstructure Physics
Weinberg 2, D-06120 Halle, Germany
Seminar & Lecture Room (Building B, groundfloor)

**Time:**
Tuesday, September 12, 2006, 9.00 a.m. – 5 p.m.

**Organization:**
M. Dubiel, University Halle, Physics Department
H. Graener, University Halle, Physics Department
H. Hofmeister, Max Planck Institute Halle
G. Seifert, University Halle, Physics Department

**Topics:**
- Application of electron, ion, X-ray and laser irradiation to metal-doped as well as nanoparticles containing glass
- Ion implantation into undoped glass
- Interaction of electron, ion, X-ray and laser irradiation with glass and embedded nanoparticles
- Radiation-induced formation mechanisms of metal nanoparticles
- Structural characterization
- Optical properties of irradiation-based nanoparticle/glass composites

**Presentation of the contributions:**
- as talks of 20 – 30 min duration plus 5 min for discussion
- a limited number of posters (A0 size or smaller) may be presented too (hof@mpi-halle.de)

**Site information:**
Detailed traffic information and how the MPI may be approached can be found on the following internet pages:

- [http://www.mpi-halle.mpg.de/mpi/mpi_f_abo.html](http://www.mpi-halle.mpg.de/mpi/mpi_f_abo.html) visitor information
- [http://www.uni-halle.de/maps/uni-maps.html](http://www.uni-halle.de/maps/uni-maps.html) city map
- [http://www.mpi-halle.mpg.de/mpi/mpi_f_abo.html](http://www.mpi-halle.mpg.de/mpi/mpi_f_abo.html) site view

**Accommodation:**
Room reservation for the InterCityHotel in Halle-Neustadt can be made at a special rate – please ask for this Frau D. Lemke (e-mail: daniela.lemke@physik.uni-halle.de)

**Lab visit:**
Visits to laboratories of participants of Halle will be organized on request.
Program:

09:00  Welcome

09:05 – 09:40  F. Vallée  Femtosecond dynamics of metal nanoparticles

09:40 – 10:15  F. Hubenthal  Tailoring of supported metal nanoparticles: from ultrafast electron dynamics to applications

10:15 – 10:45  H. Graener  Permanent deformation of silver nanoparticles by femtosecond laser irradiation

10:45 – 11:10  Coffee break  (MPI cafeteria)

11:10 – 11:45  V. Kotaidis  Femtosecond laser near-field ablation from gold nanoparticles

11:45 – 12:20  G. von Plessen  Photochromic silver nanoparticles

12:20 – 13:45  Lunch break  (students mensa)

13:45 – 14:10  K. Löschner  Laser-induced structure formation in plasma polymer films with embedded metal nanoparticles

14:10 – 14:45  A. Stepanov  Formation of metal nanoparticles in dielectrics by low energy ion implantation and their modification by laser annealing

14:45 – 15:10  M. Dubiel  Formation of Ag and Ag/Au nanoparticles by single and double ion implantation

15:10 – 15:35  Coffee break  (MPI cafeteria)

15:35 – 16:05  K. Rademann  BESSY X-ray assisted formation of noble metal clusters in glasses: A novel non-thermal activation process

16:05 – 16:35  H.-E. Mahnke  Ion beam-induced nanosized Ag metal clusters in glass

16:35 – 17:00  H. Hofmeister  Nanoparticle formation & modification by ionizing irradiation of glass upon various ways of metal doping

17:00  Farewell