

14th Symposium on Atomic, Cluster and Surface Physics (SASP 2004)

Programme

Sunday, 1 February 2004

15:30-19:00 Registration at conference desk

19:30 *Dinner*

Monday, 2 February 2004

8:30-8:40 **P. Casavecchia**
Welcome, Introductory remarks, Announcements

SESSION 1:	"Clusters, Ion-molecule reactions, Radiative Association" (Session Chair: M. Quack)
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8:40-9:10 **J. Fedor, K. Gluch, R. Parajuli, S. Matt-Leubner, O. Echt, F. Hagelberg, A. Stamatovic, M. Probst, P. Scheier, and T. D. Märk**
Electron interactions with atomic and molecular clusters: excitation, ionization and dissociation

9:10-9:40 **D. Gerlich**
Influence of exchange symmetry in low temperature ion - molecule reactions

9:40-10:10 **M. van Hemert**
The challenge of the *ab initio* calculation of radiative association rates: $C^+ + H$ and $C^+ + H_2$

10:10-10:30 Hot topic:
C. Vallance, M. Brouard, M. Bass, R. Cireasa, T. Preston
Reactions of fast chlorine atoms with hydrocarbons studied using velocity map imaging

10:30-11:00 *Coffee break*

SKIING16:00-16:30 *Coffee break***SESSION 2: "Intermolecular complexes and Dications" (Session Chair: F. Vecchiocattivi)**

16:30-17:00 **W. Caminati, A. Maris, S. Melandri, A. Millemaggi, P. Ottaviani, B. Velino, J. L. Alonso, S. Blanco, A. Lesarri, J. C. Lopez, and S. Mata**

Tunneling of water and other protic groups between the two lone pairs of Dimethylether

17:00-17:30 **I. Carmeli, G. Leitun, S. Reich, Z. Vager, and R. Naaman**
New electronic and magnetic properties of organized organic monolayers

17:30-18:00 **M. Becucci, G. Pietraperzia, M. Pasquini, G. Piani, A. Zoppi, R. Chelli, I. Lopez-Tocon, and E. Castellucci**
Structure and dynamics of organic molecules - water complexes

18:00-18:30 **R. Thissen, H. Soldi-Lose, C. Alcaraz, O. Dutuit, J. Zabka, J. Roithova, Z. Herman, P. Francesi, and D. Bassi**
Molecular dication reactions of interest for planetary ionospheres

18:30-18:50 Hot topic:
M. Alagia, F. Biondini, B. G. Brunetti, P. Candori, S. Falcinelli, M. M. Texidor, F. Pirani, R. Richter, S. Stranges, and F. Vecchiocattivi
Double photo-ionization of hydrogen halide molecules

18:50-19:10 Hot topic:
S. Wan-Ping Hu, S. M. Harper, and S. D. Price
Using coincidences to study the dynamics of the reactions of molecular dications

19:10-19:35 Oral (1') poster presentations (**PA1-PA24**)

19:45 *Dinner*

21:15 Poster session (**PA1-PA24**)

Tuesday, 3 February 2004**SESSION 3: "Cluster spectroscopy and dynamics "**
(Session Chair: **H. Haberland**)

- 8:30-9:00 **Z. Yu, C. C. Chuang, K. J. Higgins, and W. Klemperer**
Spectroscopy of molecular clusters
- 9:00-9:30 **C. Brindle, M. Prado, K. C. Janda, N. Halberstadt, and M. Lewerenz**
Magic numbers for helium cluster ions containing an Ar or Ne atom
- 9:30-10:00 **D. M. Neumark**
Photoelectron spectroscopy of metal and semiconductor cluster anions
- 10:00-10:30 **S. Lee, M. Aizawa, C. Fan, T. Wu, and S. Anderson**
Size-selected metal cluster deposition on oxide surfaces: Impact dynamics and supported cluster chemistry
- 10:30-11:00 *Coffee break*

SKIING

- 16:00-16:30 *Coffee break*

SESSION 4: "Gas/surface and gas-phase reaction dynamics" (Session Chair: S. Berry)

- 16:30-17:00 **R. D. Beck**
State resolved studies of gas/surface reaction dynamics
- 17:00-17:30 **C. Bréchnac**
Cluster surface interaction
- 17:30-18:00 **J.-M. Launay and P. Honvault**
Quantum dynamics of insertion reactions involving metastable atoms and H₂
- 18:00-18:30 **C. Murray, S. Rudić, B. Retail, J. N. Harvey, and A. J. Orr-Ewing**
The dynamics of abstraction reactions of polyatomic molecules
- 18:30-18:50 Hot topic:
G. Capozza, E. Segoloni, G. G. Volpi, and P. Casavecchia
Crossed beam study of the O(³P) + C₂H₄ reaction using "soft" electron impact ionization: Primary products, reaction dynamics and branching ratios
- 18:50-19:10 Hot topic:

L Bonnet, A. Perrier, P. Larrégaray, and J. C. Rayez
 Statisticodynamical approach of chemical reaction dynamics

19:10-19:35 Oral (1') poster presentations (**PB1-PB24**)

19:45 *Dinner*

21:15 Poster session (**PB1-PB24**)

Wednesday, 4 February 2004

SESSION 5: "Non-adiabatic effects" (Session Chair: V. Aquilanti)

8:30-9:00 **H.-J. Werner**
 Non-adiabatic effects in bimolecular reactions

9:00-9:30 **M. H. Alexander, E. J. Rackham, and D. E. Manolopoulos**
 Non-adiabaticity in the formation of OH by reaction of O(¹D) with H₂

9:30-10:00 **D. J. Nesbitt**
 IR/UV studies of state-to-state reaction dynamics: From A + BC to atom + polyatom systems

10:00-10:30 **A. M. Wodtke**
 Electronically non-adiabatic interactions in molecule metal-surface scattering: Can we trust the Born-Oppenheimer approximation in surface chemistry?

10:30-11:00 *Coffee break*

SKIING

16:00-16:30 *Coffee break*

SESSION 6: "Infrared Spectroscopy of molecules and clusters, Reaction dynamics" (Session Chair: T. Rizzo)

16:30-17:00 **M. Hippler**
 New experimental techniques for the infrared spectroscopy of molecules and clusters: From high-resolution spectroscopy to ultrafast intramolecular dynamics

17:00-17:30 **B. Lucas, B. Reimann, G. Grégoire, Y. Bouteiller, J. P. Schermann, and C. Desfrancois**
 A new mass-selective infrared spectroscopic technique for structural studies of neutral polar complexes

17:30-18:00 **F. Huisken, G. Ledoux, O. Guillois, and C. Reynaud**

- The photoluminescence of silicon nanoparticles and its relevance for astrophysics
- 18:00-18:30 **D. Ascenzi, D. Bassi, P. Franceschi, O. Hadjar, and P. Tosi**
Guided-ion beam studies of hydrocarbon ion chemistry
- 18:30-18:50 Hot topic:
J.-H. Choi
Exploring the dynamics of hydrogen atom release from the radical-radical reaction of O(³P) with C₃H₅
- 18:50-19:10 Hot topic:
C. Petrongolo, P. Gamallo, M. Gonzales, R. Sayos, and P. Defazio
Real wave packet dynamics of the reactions N+NO and LiH+H
- 19:10-19:35 Oral (1') poster presentations (**PC1-PC24**)
- 19:45 *Dinner*
- 21:15 Poster session (**PC1-PC24**)

Thursday, 5 February 2004

SESSION 7:	"Surfaces, Helium-nanodroplet and Radical Spectroscopy" (Session Chair: Futrell)
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- 8:30-9:00 **S. J. Sibener**
Scattering, Imaging, and Simulation Studies of Dynamics at Surfaces
- 9:00-9:30 **R. E. Miller**
Chemistry near absolute zero: Helium nanodroplet spectroscopy
- 9:30-10:00 **Z. Bačić, H. Jiang, J. W. Moskowitz, A. Sarsa, K. E. Schmidt, and J. M. Hutson**
Vibrational dynamics of molecules and hydrogen-bonded dimers in argon and helium clusters
- 10:00-10:30 **T. A. Miller**
Spectroscopic studies of chemical intermediates involved in hydrocarbon oxidation
- 10:30-11:00 *Coffee break*

SKIING

- 16:00-16:30 *Coffee break*

SESSION 8:	"Cold molecules, Gas-liquid interfaces, Aligned molecules" (Session Chair: P. Botschwina)
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- 16:30-17:00 **D. W. Chandler**
Cooling molecules by collisions
- 17:00-17:30 **L. Phillips**
Dynamics at the Gas-Liquid Interface
- 17:30-18:00 **D. Cappelletti**
Stereodynamics of the collisions of aligned hydrocarbon molecules in the gas phase and with metallic surfaces
- 18:00-18:20 Hot topic:
T. Zhang, X. Qian, C. Y. Ng, Y. Chiu, D. J. Levandier, J. S. Miller, and R. A. Dressler
Reactions of state-selected H_2^+ ($X, v^+ = 0-17, N^+ = 1$) with Ne and Ar: a pulsed field ionization – photoelectron – secondary ion coincidence study
- 18:20-19:10 ***Schrödinger Medal* (Chair: **G. G. Volpi**)**
A. Giardini, A. Paladini, D. Scuderi, A. Filippi, M. Speranza, D. Catone, F. Rondino, S. Piccirillo, and M. Satta
- 20:00 *Symposium Dinner*

Friday, 6 February 2004

After breakfast: Dispersal