

Regional Symposium on

**CHEMICAL PHYSICS**

October 24-26, 1986

at the University of Waterloo

**SESSION I:** Friday, October 24, 1986 P.M. NH-3001  
Chairman: G. Scoles

- 7:30 - 8:10 T.H. Ellis (Université de Montreal).  
Direct measurements of surface kinetics by time resolved EELS.
- 8:10 - 8:30 J.E. Black (Brock University) The molecular dynamics of Xenon on Pt(111).
- 8:30 - 8:50 J.J. Kasinski, L.A. Gomez Jahn and R.J. Dwayne Miller (Univ. of Rochester).  
Picosecond transient grating studies of charge injection at semiconductor/  
electrolyte interfaces.
- 8:50 - 9:10 J. Richer and J. Lipkowski (University of Guelph).  
Quantitative investigation of the adsorption of organic molecules at solid  
electrodes.
- 9:10 - 9:30 W.-K. Liu (University of Waterloo).  
Scattering of helium atoms from adsorbates.

**SESSION II:** Saturday, October 25, A.M. NH-3001  
Chairman: R.J. Le Roy

- 9:00 - 9:40 G. Scoles (Univ. of Waterloo).  
Atomic beam scattering studies of intermolecular forces at the gas-solid  
interface.
- 9:40 - 10:00 P.M. Aker, E.J. Kruus, B.I. Niefer and J.J. Sloan (Carleton University and  
NRC, Ottawa). The dynamics of the  $O(^1D_2) + H_2$  and HCl reactions.
- 10:00 -10:20 V. Barclay and J. Wright (Carleton University).  
Bond functions and potential curves for molecular excited states:  
Application to  $N_2$ .
- 10:20 -10:40 COFFEE BREAK
- 10:40 -11:20 W.L. Hase (Wayne State University).  
Potential energy surface properties and dynamics of  $H + CH_3$  recombination  
and IVR in benzene.
- 11:20 -11:40 M. Mandy and J.E. Dove (University of Toronto).  
Influence of molecular internal energy on the dynamics of collision induced  
dissociation.
- 11:40 -12:00 J.W. Winniczek, A.L. Braveman, M.H. Shen and J.M. Farrar (Univ. of  
Rochester).  
Vibrational and translational energy effects in the abstraction and  
exchange reactions of  $NH_3^+$  with  $D_2$ .
- 12:10 - 1:45 LUNCH Festival Room - SCH

SESSION III: Saturday, October 25, P.M.  
Chairman: J.W. Hepburn

NH-3001

- 2:00 - 3:00 Y.T. Lee (University of California, Berkeley).  
Dynamics and spectroscopy by lasers and molecular beams.
- 3:00 - 3:20 J. Polowin and J.S. Wright (Carleton University).  
A scaled ab initio surface for  $F+H_2 \rightarrow HF+H$ , and the effect of surface features on product state distributions.
- 3:20 - 3:40 J.R. Wiesenfeld, M. Trolier, and C. Cleveland (Cornell University).  
LIF rotational distributions of OH ( $X^2\Pi$ ,  $v''=2$  and  $v''=3$ ) resulting from the reaction of  $O(^1D_2)+H_2$ .
- 3:40 - 4:00 J.R. Wiesenfeld and M. Trolier (Cornell University)  
Calculated probabilities for OH  $A^2\Sigma^+ \rightarrow X^2\Pi$  Transitions: Implications for the nascent vibrational distribution of  $O(^1D)+H_2 \rightarrow OH(X^2\Pi)+H$ .

SESSION IV: Saturday, October 25, P.M.  
POSTER SESSION.

Festival Room - SCH

4:00 - 7:00

- 1) G. Hunter and R.L.P. Wadlinger (York University). Interpretation of multiphoton phenomena.
- 2) F. Morgan and C. Sadowski (York University). ICN photolysis @ 193 nm: CN red and violet emission.
- 3) N. Snider (Queen's University). Secondary encounters in collinear, dissociative atom-diatom collisions.
- 4) R.L.P. Wadlinger and G. Hunter (York University). The Planck length and time.
- 5) T.E. Gough, X. Gu, N.R. Isenor and G. Scoles (University of Waterloo). Transition dipole moment for the CO stretching band of  $CH_3OH$  measured with molecular beam laser Stark spectroscopy.
- 6) F.S.M. Emar, T.D. McLean and G.W. King (McMaster University). The absorption spectrum of  $I_2$  in the  $50000\text{ cm}^{-1}$  region.
- 7) W. L. Keogh, M. Mandy and J.E. Dove (University of Toronto). Vibrational and rotational energy transfer in  $H_2-H$  collisions.
- 8) F. Ioannoni, C. Starrs and D.C. Moule (Brock University). Thioacetaldehyde spectroscopy.
- 9) I. Ishii and A.P. Hitchcock (McMaster University). A study of the core excited electronic states of the isoelectronic series of molecules, formamide, formic acid and formyl fluoride by electron energy loss spectroscopy.
- 10) P.M. Aker, E.J. Kruus, B.I. Niefer and J.J. Sloan (N.R.C. and Carleton University). Dynamics of  $O(^1D_2)/CX_3H$  ( $X=F, Cl$ ) Reactions using time- and spectrally-resolved product detection.
- 11) B. Bourguignon, M.-Ali Gargoura, J. McCombie, J. Rostas and G. Taibb (Université de Paris-Sud, Orsay). Rotational excitation of the  $MgCl$  product in the harpooning  $Mg(^1S) + Cl_2$  reaction.
- 12) I.M. Waller and J.W. Hepburn (University of Waterloo). Photofragment spectroscopy of metal carbonyls.
- 13) J.A. Barnes and T.E. Gough (University of Waterloo). IR Spectra of  $CO_2$  clusters.
- 14) R.J. Le Roy and D. Eichenauer (University of Waterloo). Spectra structure and dynamics of  $SF_6-Ar_n$  van der Waals clusters.
- 15) D. Levandier, R. Pursel and G. Scoles (University of Waterloo). Complex forming reactions in a noble gas cluster environment.

7:00 DINNER

Festival Room - SCH

**SESSION V:**Sunday, October 26 A.M.  
Chairman: T.E. Gough

NH-3001

- 9:00 - 9:40 S.C. Wallace (Univ. of Toronto).  
Excited state dynamics of van der Waals clusters.
- 9:40 - 10:00 Luis A. Gomez Jahn, J. Kasinski and R.J.D. Miller (Univ. of Rochester).  
Spatial properties of electronic excited state energy transport in three-dimensional disordered systems: Picosecond transient grating studies.
- 10:00 - 10:20 J.S. Muentzer (Univ. of Rochester).  
Infrared spectra of weakly bound molecular complexes.
- 10:20 - 10:40 Coffee Break.
- 10:40 - 11:20 A. Bandrauk (Université de Sherbrooke).  
Non-adiabatic effects in multiphoton transitions.
- 11:20 - 11:40 H.S. Kwok (S.U.N.Y. at Buffalo).  
Pulsewidth effects on the absorption spectrum of benzene.
- 11:40 - 12:00 D. Wardlaw and E. Aubanel (Queens University).  
Semiclassical spectroscopy of the OCS molecule.