

CONTENTS

1. Clean and Adsorbed Surfaces

- Theory of phonons on clean and adsorbed surfaces	1
L. Dobrzynski, B. Djafari-Rouhani (Invited)	
- Desorption by resonant multiphoton excitation of internal adsorbate vibration	17
J. Heidberg, H. Stein, E. Riehl	
- Face centered cubic transition metal surface vibrations	39
G. Allan, J. Lopez	
- Atom motion at model crystal surfaces	57
J.E. Black	
- Infrared reflection absorption and emission study of methyl alcohol adsorption on MoO ₃ films	71
M. Ito	
- Rotational accommodation at surfaces via Rayleigh phonons	79
B. Feuerbacher	
- Arrangement of CO molecules adsorbed on low index metal surfaces : a comparison between LEED and HREELS or IRS	91
J.P. Biberian, M.A. Van Hove	
- Effects of many body forces on the adsorbate induced phonon structure	105
G. Doyen	
- Vibrational lifetimes for molecules adsorbed on metal surfaces	113
M. Persson, B.N.J. Persson	
- Surface modes of a spherical void at the prox- mity of a surface	123
A. Ronveaux, A. Magnus	

- Theoretical study of the vibrational properties of a (117)F.C.C. surface. 129
G. Armand, P. Masri (Abstract)
- The chemisorption of CO on Cu : an ab initio cluster model study 131
P.S. Bagus, M. Seel (Abstract)
- Vibrational modes of molecules on metals. 133
H. Morawitz, T.R. Koehler (Abstract)
- Vibrations of neutrally adsorbed atoms on transition metal surfaces 135
C.M. Sayers (Abstract)

2. Electron energy loss spectroscopy

- EELS of surface phonons and vibrations of adsorbed species. 137
S. Lehwald, H. Ibach (Invited)
- Electronic surface resonance enhancement of vibrational loss intensities. 153
R.F. Willis (Invited)
- EELS of collective surface modes 169
S. Andersson (Invited)
- The adsorption and co-adsorption with CO of NO on Cu(110) studied with ELS and LEED. 187
J.F. Wendelken
- The adsorption of H₂O on Ru(001) : chemisorption and hydrogen bonding 201
P.A. Thiel, F.M. Hoffmann, W.H. Weinberg
- On the excitation mechanism of vibrational modes of C₂H₄ chemisorbed on Pt(111) and Ni(111) by EELS 215
A.M. Baro, S. Lehwald, H. Ibach
- Vibrations measured at metal surfaces by EELS : a review table. 231
P. Thiry
- High resolution electron spectroscopy : instrumentation and some results on a tungsten surface 249
A. Adnot (Invited - Abstract)
- Theory of electron energy loss spectroscopy 251
M. Sunjic (Invited - Abstract)
- Adsorption sites of CO on the (111) face of Pt₁₀Ni₉₀ single crystal alloy. 253
J.C. Bertolini, B. Tardy (Abstract)

3. Infrared Spectroscopy

4. Surface Enhanced Raman Scattering

5. Other Spectroscopies

6. <u>Surface Molecular Dynamics and Reactivity</u>	
- Energy transfer processes in gas and surface reactions	501
B. Kasemo (Invited)	
- Electron-hole pairs, molecular vibrations, and rate processes at metal surfaces	519
J.W. Gadzuk, H. Metiu (Invited)	
- Static and dynamic aspects of chemisorption	541
B.I. Lundqvist (Invited)	
- Vibrational activation and surface reactivity; SF ₆ interaction with silicon induced by infrared laser radiation	573
T.J. Chuang	
Index	579