

CONTENTS

Studies in Surface Science and Catalysis (other volumes in the series) ...	IX
Foreword	XI
Acknowledgments	XIII
Tony Tench, through the eyes of three scientists who knew him well	XV
 The late Dr. Tench's contribution to the work of AERE, Harwell (C.B. Amphlett)	 1
 Characterization and reactivity of oxide surfaces: the scientific work of the late Dr. A.J. Tench (M. Che)	 11
 List of papers published by the late Dr. A.J. Tench	 33
 Photoluminescence and resonance energy transfer in zeolites (D.H. Strome and K. Klier)	 41
 Surface structure and energy transfer on oxides investigated by photoluminescence spectroscopy (S. Coluccia)	 59
 Electronic and vibrational states at the surface of ionic and covalent solids (A. Zecchina and D. Scarano)	 71
 Spectroscopic and kinetic studies of surface processes on alkaline earth oxides. Effects of Ba ²⁺ dopant upon MgO (J. Nunan, J. Cunningham, A.M. Deane, E.A. Colbourn and W.C. Mackrodt)	 83
 UV diffuse reflectance spectra of ammonia adsorbed on alkaline earth oxides and analogy with charge-transfer-to-solvent spectra (E. Garrone and F.S. Stone)	 97
 Surface structure and nature of adsorption sites of supported, reduced and sulfided molybdate catalysts (H. Knözinger)	 109

VI

Photo-adsorption of oxygen on acid and basic TiO_2 surfaces (G. Munuera, A.R. Gonzalez-Elipse, V. Rives-Arnau, A. Navio, P. Malet, J. Soria, J.C. Conesa and J. Sanz)	113
Photocatalytic reactions on metal oxides and their excited states (Y. Kubokawa and M. Anpo)	127
Solid/solid adsorption (Xie Youchang, Gui Linlin, Liu Yingjun, Zhang Yufen, Zhao Biying, Yang Naifang, Guo Qinlin, Duan Lianyun, Huang Huizhong, Cai Xiaohai and Tang Youchi)	139
Surface and porous properties of oxides measured by gas adsorption (R.G. Avery and J.D.F. Ramsay)	149
Adsorptive properties of aluminumphosphate molecular sieves (G. Dworezkov, G. Rimplmayr, H. Mayer and J.A. Lercher)	163
The study of adsorption on metal oxides by high-resolution electron-energy-loss spectroscopy (R.G. Egdel)	173
Decomposition of ethanol and acetaldehyde on (110) SnO_2 faces and sintered SnO_2 samples in UHV (D. Kohl, H. Jacobs, W. Mokwa and G. Heiland)	183
The surface and bulk oxidation states of MoO_3 during the partial oxidation of methanol (J.S. Chung and C.O. Bennett)	185
Electron donor properties of CoO-MgO solid solutions studied by electron spin resonance spectroscopy (K. Dyrek and Z. Sojka)	195
The nature of surface species formed upon adsorption of CO , O_2 and nitrogen oxides on high surface area CoO-MgO and NiO-MgO solid solutions as investigated by ESR spectroscopy (D. Cordischi and V. Indovina)	209
The interaction of CO and NO at the surface of MgO : an IR and ESR study (E. Garrone and E. Giamello)	225
Surface characterization of Cu/ZnO catalysts: IR, VIS, UV study of CO chemisorption (G. Ghiotti, F. Boccuzzi and A. Chiorino)	235

Some infrared spectroscopic studies of the adsorption of molecules on MgO surfaces and MgO-supported palladium catalysts (C.C. Chu and N. Sheppard)	247
Infrared study of surface modes on alumina (J.C. Lavalley and M. Benaissa)	251
Near infrared study of surface hydroxyl groups of γ -alumina (L. Mariette, J.F. Hemidy and D. Cornet)	263
Surface reaction mechanisms of selective olefin oxidation over mixed metal oxides (R.K. Grasselli)	275
Surface chemistry and reactivity of vanadium-phosphorus oxides (F. Cavani, G. Centi, F. Trifiro' and A. Vaccari)	287
The nature of active oxygen in selective oxidation reactions (G.W. Keulks and T. Matsuzaki)	297
Alcohol conversion selectivity as a measure of the base strength of metal oxide catalysts (B.H. Davis)	309
Catalysis by alkaline earth metal oxides (H. Hattori)	319
Influence of the support on the preparation of oriented oxide catalysts (J.C. Volta)	331
Co-Mo-O-Ti, a new catalyst effective in butane oxidation to maleic anhydride (J.S. Jung, E. Bordes and P. Courtine)	345
Structure-sensitive catalytic reactions on oxide surfaces (J.E. Germain) .	355
Structure sensitivity in catalysis of vanadium oxide (A. Miyamoto, K. Mori, M. Miura and Y. Murakami)	371
Adsorption studies on vanadium oxides. A verification of the oxidized surface state model (A. Andersson)	381
The production of gas phase methyl radicals over lithium-promoted MgO (D.J. Driscoll, W. Martir, J.-X. Wang and J.H. Lunsford)	403

VIII

Redox and catalytic properties of perovskite-type mixed oxides. A comparative study of $\text{Ln}_{1-x}\text{Sr}_x\text{BO}_3$ (M. Misono and T. Nitadori)	409
Adsorption and catalytic properties of iron-cobalt oxide spinels: hydrogen-oxygen (R.R. Rajaram and P.A. Sermon)	421
Direct conversion of isobutane into nitriles by interaction with nitric oxide on chromia-alumina catalysts (H. Zarrouk, A. Ghorbel, G.M. Pajonk and S.J. Teichner)	429
Author Index	441