

TABLE OF CONTENTS

Preface	xi
"Microporous silicon: Formation mechanism and preparation method" V. Lehmann	1
"Electrochemical and chemical behavior of porous silicon layers: the role of the material wettability and its high specific surface area" A. Halimaoui	11
"Fabrication of silicon nanostructures for light emission study" H.I. Liu, D.K. Biegelsen, N.M. Johnson, F.A. Ponce, N.I. Maluf & R.F.W. Pease	23
"Light emission from porous silicon and other self organised low dimensional systems" B. Hamilton & S. Gardelis	35
"Preparation and properties of thin siloxene films on silicon" M. Rosenbauer, M.S. Brandt, H.D. Fuchs, A. Höpner, A. Breitschwerdt & M. Stutzmann	43
"Modelling of porous structures formation during electrochemical treatment of materials" V.P. Parkhutik, J.M. Martinez-Duart & J.M. Albella	55
"Electronic charge trapping effects in porous silicon" L. Pavesi, L. Calliari, E. Zanghellini, G. Mariotto, M. Anderle & O. Bisi	61
"Mechanical, optical and electrical properties of porous silicon prepared under clean conditions" Y. Diawara, J.F. Currie & A. Yelon	69
"The influence of microelectronic processing steps on the properties of porous silicon layers" H. Münder, M.G. Berger, St. Frohnhoff, M. Thönissen, H. Lüth, W. Theiß & L. Küpper	75

"Progress towards understanding and exploiting the luminescent properties of highly porous silicon" L.T. Canham	81
""White" photoluminescence from electrochemically attacked silicon" A. Cameron, X. Chen, C. Trager Cowan, D. Uttamchandani & K.P. O'Donnell	95
"Electrochemical investigation of the electroluminescent properties of porous silicon" F. Muller, R. Herino, M. Ligeon, S. Billat, F. Gaspard, R. Romestain, J.C. Vial & A. Bsiesy	101
"Phenomenological properties of the fast (blue) and slow (red) components in the photoluminescence of porous silicon" J.C. Vial & I. Mihalcescu	117
"Electroluminescence from porous silicon" F. Kozlowski, P. Steiner & W. Lang	123
"Optoelectronic properties of porous silicon" N. Koshida	133
"Voltage Tunable electroluminescence of porous silicon" A. Bsiesy, F. Muller, M. Ligeon, F. Gaspard, R. Hérino, R. Romestain & J.C. Vial	139
"Studies of porous silicon by Electron Microscopy" A.G. Cullis	147
"Scanning probe microscopies of luminescent porous silicon layers" Ph. Dumas, M. Gu, C. Strykh, F. Salvan, J.K. Gimzewski, O. Vatel & A. Halimaoui	157
"In-situ combined infrared and photoluminescence investigation of porous silicon during its etching" V.M. Dubin, F. Ozanam & J.-N. Chazalviel	163
"Near surface states in Si and their possible role in the luminescence of porous silicon" D. Bois & J.M. Debever	169

- "Porous silicon electroluminescence mechanisms and defect analysis"
J.F. Harvey, E.H. Poindexter, D.C. Morton, F.C. Pong, R.A. Lux & R. Tsu 179
- "Defect and structure analysis of n^+ and p^+ -type porous silicon by the Electron Paramagnetic Resonance technique"
H.J. von Bardeleben, D. Stievenard*, A. Grosman, C. Ortega & J. Siejka 191
- "Photoluminescence and optically detected magnetic resonance investigations on porous silicon"
A. Kux & D. Hofmann 197
- "Effects of the reduction of dielectric constant in nanoscale silicon"
R. Tsu & D. Babic 203
- "Quantum effects in porous-Si ?"
M. Voos & C. Delalande 211
- "Electronic properties of low dimensional silicon structures"
S. Ossicini, A. Fasolino & F. Bertardini 219
- "Role of silicon molecules and crystallites in the luminescence of porous silicon"
C. Delerue, G. Allan & M. Lannoo 229
- "Localisation of excitons on a quantum wire of fluctuating width"
K.P. O'Donnell, F. Yang & E.J. Austin 235