

Table of Contents

Quantum Conductance in Single-Walled Carbon Nanotube Quantum Dots H. Liu	1
Dislocation Structures in Diamond: Density-Functional Based Modelling and High-Resolution Electron Microscopy A.T. Blumenau, T. Frauenheim, S. Öberg, B. Willems and G. Van Tendeloo	11
Diffusion of Light Elements in Diamond C. Saguy	31
Defect Aggregation and Dissociation in Brown Type-Ia Diamonds by Annealing at High Pressure and High Temperature (HPHT) F. De Weerd, R. Galloway and A. Anthonis	49
Optical Study of Defect Distributions in CVD Diamond I.I. Vlasov and V.G. Ralchenko	61
Diffusion of a Light Hydrogen Isotope in the III-V Nitrides R.L. Lichti	69
Anisotropy of the Elastic Properties of Wurtzite InN Epitaxial Films P. Specht, V.S. Harutyunyan, J. Ho and E.R. Weber	79
Experimental Studies of Defects, Implants and their Processes in Ion-Irradiated Gallium Nitride Single Crystals W. Jiang, W.J. Weber, C. Wang, L.M. Wang and K. Sun	91
Atomic Structures, Electronic States and Hydrogen Storage of Boron Nitride Nanocage Clusters, Nanotubes and Nanohorns T. Oku, I. Narita, A. Nishiwaki and N. Koi	113
Oxygen Permeability and Thermal Expansion of Ferrite-Based Mixed Conducting Ceramics V.V. Kharton, A.A. Yaremchenko, A.L. Shaula, A.P. Viskup, F.M.B. Marques, J.R. Frade, E.N. Naumovich, J.R. Casanova and I.P. Marozau	141
The Chemical Diffusion Coefficient of the Hydrogen Ion in Iridium Oxide Films G. Yu	161
Large-Scale Computer Modelling of Point Defects, Polarons and Perovskite Solid Solutions R.I. Eglitis, E.A. Kotomin and G. Borstel	169
Hydrogen in ZnO: an Infra-Red Absorption Study E.V. Lavrov	181
Investigation of the Diffusion Behavior near Grain Boundaries for Control of the Electrical Features of Semiconducting Oxides M.B. Park and N.H. Cho	191
Crystal Field Modification by Doping in HTC YBCO M. El-Hofy, M. El-Shahawy and R. Ebrahimi	197
Abstracts	1