

## Table of Contents

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