NANOMECHANICS SCIENCE and TECHNOLOGY An International Journal

VOLUME 7

a nanosized micropolar material, 61 activated carbon, 37 anisotropy, 349 antiscaling effect, 247 aqueous electrolyte, 37 atmospheric plasma spraying, 311 balance equations, 177 barrier layer, 311 bending of prismatic rods, 261 boundary integral representation, 61 calcite and aragonite as polymorphic phases of CaCO₃, 247 carbon nanotubes (nanofibers), 349 CCCM, 311 cerium oxide nanoparticles, 165, 235 chemical transformations, 335 coating deposition, 335 coincidence site lattice, 107 computer modeling, 37 contortion, 177 Cosserat continuum, 61, 297 coupled model, 335 covector-valued exterior forms of stresses, 177 crack arrest, 123 critical nucleus, 247 cross effects, 335 cross phenomena, 1 crystallization, 305 current pulse, 123 defect and grain structure, 107

dynamic recrystallization, 107 elasticity of the bubble medium, 149 electrochemical double layer capacitor, 37 electrodynamic effects, 149 electrodynamic processes, 149 electroplasticity, 123 evaporation, 123 FEM, 297 flexural rigidity, 261 generalized coefficients of diffusion, 1 generation and coagulation, 305 Gibbs energy, 247 gradient theory, 261 Green function method, 61 half-space, 61 healing of microcracks, 123 heat-resistant layer, 311 high-energy electromagnetic field, 123 incompatible deformations, 177 interfacial adhesion, 27 irreversible deformation, 1 Limited Evaporation technique, 37 macropores, 37 magnetic treatment of water, 247 material connections, 177 material manifold, 177 materials, 97 melting, 123 mesenchymal stem cells, 165, 235 method of the moving frame, 177

microdefects interaction, 123 micropolar elasticity, 297

model, 77

multicomponent media, 1 nanocomposite, 27, 349

nanocomposites, 97 nanoparticles, 149

nanosized critical nuclei, 305

nanosized rods, 261 nanostructures, 77

non-Euclidian geometry, 177 nonlinear deformation, 77 nonstationary problems, 61

nucleation, 305

numerical algorithm, 61

organoclay, 27 percolation, 27 phase transition, 77 phase transitions, 123

physical theories of plasticity, 107

plate rigidity, 261

polymorphic modifications, 311

porosity, 311 porous media, 297 potential components, 261

processes of ignition and combustion, 149

proliferation in vitro, 165 proliferation, 235

reinforcement degree, 27, 349 residual stresses, 177

reversing shape memory, 77 ring-shaped structure, 349

scale, 305

scale-dependent rods, 261

scale effects, 261

shape-memory alloys, 77

simulation, 261 size effect, 297

small parameter method, 61 solution concentration, 247 stress concentration, 297 structural transition, 77

structure, 27 structures, 261 surface loads, 61

theory of elasticity, 261 thermal stresses, 311 thermodynamics of irreversible processes, 1

ultrasonic methods, 97 ultrathin rods, 261