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**Keyword Listing**

1. **Materials**

   - aluminum nitride (AlN)
   - amorphous
   - amorphous carbon
   - amorphous hydrogenated carbon
   - amorphous alloys
   - boron nitride (BN)
   - carbides
   - carbon nitride
   - composites
   - cubic boron nitride (c-BN)
   - diamond crystal
   - diamond film
   - diamond-like carbon
   - fibres
   - fullerenes
   - gallium nitride (GaN)
   - graphite
   - glassy carbon
   - metastable phases
   - nanocrystalline
   - nanofibers
   - nanoparticles
   - nanostructures
   - nanotubes
   - natural diamond
   - nitrides
   - polytypes
   - silicon carbide (SiC)
   - synthetic diamond
   - tetrahedral amorphous carbon

2. **Growth and Synthesis**

   - bias growth
   - buffer layer
   - cathodic arc discharge
   - chemical vapor deposition
   - chemisorption
   - combustion synthesis
   - simulation
   - single crystal growth
   - gas phase reactions
   - heteroepitaxy
   - heterojunction
   - high pressure crystal growth
   - high pressure high temperature (HTHP)
   - homoepitaxy
   - hot filament CVD
   - ion assisted deposition
   - ion beam deposition
   - ion bombardment
   - molecular beam epitaxy (MBE)
   - nucleation
physical vapor deposition
plasma CVD
pulsed laser deposition (PLD)
reactor modelling
solution growth
sputtering
sublimation growth
vapour growth

3. Processes and Phenomena

abrasion
absorption
adhesion
adsorption
catalytic processes
corrosion
desorption
diffusion
etching
field emission
friction
impact ionization
implantation
isotopic effects
oxidation
optical emission
passivation
polishing
radiation induced effects
reactive ion etching (RIE)
wear

4. Characterization

defect characterization
electrical properties characterization
grain boundary characterization
high resolutions electron microscopy
impurity characterization
interface characterization
mechanical properties characterization
optical properties characterization
scanning probe techniques
surface characterization
surface microscopy
vibrational properties characterization

5. Properties

acoustic properties
band structure
biocompatibility
bonding configurations
n-type doping
p-type doping
defects
electrical conductivity
electrical properties
electron affinity
6. Applications

actuators
biomaterials
biomedical applications
coatings
cutting tools
device modeling
detectors
display technologies
electrodes
electrochemical
electronic device structures
high power electronics
high frequency electronics
light emission
laser materials
membranes
micro electromechanical systems (MEMS)
nanotechnology
Schottky diodes
sensors
surface acoustic wave devices
superhard materials
windows

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