COMPOSITES SCIENCE AND TECHNOLOGY

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DESCRIPTION

Composites Science and Technology publishes refereed original articles on the fundamental and applied science of engineering composites. The focus of this journal is on polymeric matrix composites with reinforcements/fillers ranging from nano- to macro-scale. CSTE encourages manuscripts reporting unique, innovative contributions to the physics, chemistry, materials science and applied mechanics aspects of advanced composites.

Besides traditional fiber reinforced composites, novel composites with significant potential for engineering applications are encouraged. These may include, but are not limited to, nanocomposites, biomedical composites, green/eco composites, energy composites, and composites mimicking natural materials. Manuscripts dealing with multi-scale and multi-functional issues and performance as well as interdisciplinary approaches to the study of new generation composite materials are welcome. Analytical work should be validated. Publication of manuscripts reporting routine processing, synthesis and property characterization are not a priority of CSTE.

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INTRODUCTION

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Reference to a book:
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List of keywords
A. Material:
Adhesive joints
Alloys
Amorphous materials
Aramid fibre
Carbon fibres
Carbon nanotubes
Coating
Coupling agents
Fabrics/textiles
Fibres
Flexible composites
Functional composites
Glass fibres
Glasses
Hybrid composites
Intermetallics
Laminate
Layered structures
Metal-matrix composites (MMCs)
Metals
Nano clays
Nano composites
Nano particles
Oxides
Particle-reinforced composites
Polymer-matrix composites (PMCs)
Polymers
Preceramic polymer
Recycling
Sandwich
Structural composites
Short-fibre composites
Smart materials
Textile composites
Wood

**B. Property:**

Corrosion
Creep
Curing
Debonding
Defects
Delamination
Durability
Electrical properties
Embrittlement
Environmental Degradation
Fatigue
Fibre/matrix bond
Fracture
Fracture toughness
Fragmentation
Friction/wear
High-temperature properties
Hygrothermal effect
Impact behaviour
Interface
Interfacial strength
Interphase
Magnetic properties
Matrix cracking
Mechanical properties
Non-linear behaviour
Plastic deformation
Porosity/Voids
Strength
Stress/strain curves
Surface treatments
Synergism
Thermal properties
Thermomechanical properties
Transport properties
Vibration

C. Analysis:

Anelasticity
Anisotropy
Buckling
Complex moduli
Computational mechanics
Crack
Damage mechanics
Damage tolerance
Deformation
Elastic properties
Failure criterion
Fibre bridging
Finite element analysis (FEA)
Laminate theory
Modelling
Multiscale modeling
Notch
Plate theory
Probabilistic methods
Residual stress
Sandwich structures
Shell theory
Statistics
Stress concentrations
Stress relaxation
Stress transfer
Transverse cracking

D. Testing:

Acoustic emission
Atomic force microscopy (AFM)
Differential scanning calorimetry (DSC)
Dynamic mechanical thermal analysis (DMTA)
Electron energy loss spectroscopy (EELS)
Electron microprobe analysis
Fractography
Hardness testing
Infrared (IR) spectroscopy
Life prediction
Moiré techniques
Non-destructive testing
Optical microscopy
Photoelectron spectroscopy (XPS)
Raman spectroscopy
Rheology
Scanning electron microscopy (SEM)
Scanning/transmission electron microscopy (STEM)
Secondary ion mass spectrometry (SIMS)
Thermogravimetric analysis (TGA)
Transmission electron microscopy (TEM)
Ultrasonics
X-ray diffraction (XRD)
X-ray fluorescence (XRF)

E. Processing:

Annealing
Braiding
Casting
Chemical vapour deposition (CVD)
Chemical vapour infiltration (CVI)
Directional solidification
Electro-spinning
Extrusion
Filament winding
Heat treatment
Injection moulding
Ion implantation
Ion plating
Isostatic pressing
Knitting
Liquid metal infiltration (LMI)
Melt-spinning
Microwave processing
Physical vapour deposition
Plasma deposition
Plasma spraying
Powder processing
Pultrusion
Resin transfer moulding (RTM)
Sintering
Slip casting
Sol-gel methods
Welding/joining