COMPOSITES SCIENCE AND TECHNOLOGY

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DESCRIPTION

Composites Science and Technology publishes refereed original articles on the fundamental and applied science of composites. The focus of the journal is on polymeric matrix composites with reinforcements/fillers ranging from nano- to macro-scale. CSTE encourages manuscripts reporting unique, innovative contributions to the materials science, physics, chemistry 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, bio-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 (either experimental or numerical). Experimental work should include a modelling section (numerical, analytical) suitable to clarify and justify the results presented. The journal attracts papers on modelling of materials (at different scale, from nano to macro - not composite structures). 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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**References**

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List of keywords
A. Material:
Adhesive joints
Alloys
Amorphous materials
Bio composites
Carbon fibres
Carbon nanotubes
Coupling agents
Fabrics/textiles
Flexible composites
Glass fibres
Glasses
Graphene and other 2D-materials
Hybrid composites
Intermetallics
Laminate
Layered structures
Metal fibres
Multifunctional composites
Nano clays
Nano composites
Nano particles
Natural fibres
Natural fibre composites
Particle-reinforced composites
Polymer-matrix composites (PMCs)
B. Property:

Corrosion
Creep
Curing
Debonding
Defects
Delamination
Dielectricity
Durability
Elastic behaviour
Electrical properties
Electro-chemical behavior
Electromagnetic interference shielding (EMI)
Electro-mechanical behaviour
Embrittlement
Environmental Degradation
Fatigue
Fibre/matrix bond
Fracture
Fracture toughness
Fragmentation
High-temperature properties
Hygro-thermal effect
Impact behaviour
Interface
Interfacial strength
Interphase
Low temperature properties
Magnetic properties
Matrix cracking
Mechanical properties
Multifunctional properties
Non-linear behaviour
Notch sensitivity
Plastic deformation
Porosity/Voids
Self-healing
Sensing
Shape memory behaviour
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
Durability
Elastic properties
Failure criterion
Fibre bridging
Finite element analysis (FEA)
Laminate theory
Material modelling
Molecular dynamics
Multi-mechanism modelling
Multiscale modeling
Notch
Plate theory
Probabilistic methods
Representative volume element (RVE)
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
Infrared Thermography
Infrared (IR) spectroscopy
Life prediction
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)
Ultrasonic testing
X-ray computed tomography
X-ray diffraction (XRD)
X-ray fluorescence (XRF)

E. Processing:
Additive manufacturing
Annealing
Chemical vapour deposition (CVD)
Chemical vapour infiltration (CVI)
Compression moulding
Electro-spinning
Extrusion
Filament winding
Heat treatment
Injection moulding
Ion implantation
Ion plating
Isostatic pressing
Melt-spinning
Microwave processing
Physical vapour deposition
Plasma deposition
Plasma spraying
Powder processing
Pultrusion
Resin transfer moulding (RTM)
Sintering
3D printing