

Journal of Composites Technology & Research

Subject Index

Volume 16, 1994

A-B

Acoustic emission

Prediction of fatigue life of composite femoral prostheses using acoustic emission technique (Sundaresan, MJ, Henneke, EG, II, and Reifsnider, KL), April, 127

Adhesive joints

Mixed mode energy release rates for adhesively bonded beam specimens (Femlund, G and Spelt, JK), July, 234

Bending strength

Effect of fiber-fiber interaction on the strength properties of short fiber reinforced cements (Karam, GN), April, 154

Biaxial testing

Biaxial tension-compression test method for composite laminates (Wang, JZ and Socie, DF), Oct., 336

Book reviews

Fiber-Reinforced Ceramic Composites: Materials, Processing and Technology by Mazdayasni (Yang, F and Saxena, A), July, 284

Handbook of Composite Reinforcements by Lee (Johnson, WS), Oct., 352

C

Ceramic matrix composites

Micromechanics of ambient temperature cyclic fatigue loading in a composite of CAS glass ceramic reinforced with Nicalon fibers (Rousseau, CQ, Davidson, DL, and Campbell, JB), April, 115

Classical laminate theory (CLT)

Classical laminate theory models for woven fabric composites (Raju, IS and Wang, JT), Oct., 289

Coefficient of thermal expansion

Residual stresses in SCS-6/Ti-24Al-11Nb composite: Part I—Experimental (Rangaswamy, P, Revelos, WC, and Jayaraman, N), Jan., 47

Residual stresses in SCS-6/Ti-24Al-

11Nb composite: Part II—Finite element modeling (Rangaswamy, P and Jayaraman, N), Jan., 54

Time-dependent behavior of continuous-fiber-reinforced metal matrix composites: modeling and applications (Tamin, MN, Zheng, D, and Ghonem, HJ), Oct., 314

Compressive strength

Analytical and experimental evaluation of 0/90 laminate tests for compression characterization (Wilson, DW, Altstädt, V, Maier, M, Prandy, J, Thoma, K, and Vinckier, D), April, 146

Crack density

Effects of an expanding monomer on the tensile properties of graphite/epoxy (Orso, J and Vizzini, AJ), July, 270

Crack opening displacements

Micromechanics of ambient temperature cyclic fatigue loading in a composite of CAS glass ceramic reinforced with Nicalon fibers (Rousseau, CQ, Davidson, DL, and Campbell, JB), April, 115

Cross-ply laminates

Thermo-elastic properties of composite laminates with transverse cracks (Varna, J and Berglund, LA), Jan., 77

D-E

Damage progression

Advanced test technique to quantify thermomechanical fatigue damage accumulation in composite materials (Castelli, MG), Oct., 323

Delamination

Effect of through thickness tensile and compressive stresses on delamination propagation fracture energy (Cui, W, Wisnom, MR, and Jones, MI), Oct., 329

Efficiency factor

Effect of fiber-fiber interaction on the strength properties of short fiber reinforced cements (Karam, GN), April, 154

Elastic properties

Self-consistent fabric geometry model: modification and application of a fabric geometry model to predict the elastic properties of textile composites (Pastore, CM and Gowayed, YA), Jan., 32

Expanding monomer

Effects of an expanding monomer on the tensile properties of graphite/epoxy (Orso, J and Vizzini, AJ), July, 270

F

Fabric and woven composites

Classical laminate theory models for woven fabric composites (Raju, IS and Wang, JT), Oct., 289

Failure

New failure criterion for nonlinear composite materials (Abu-Farsakh, GA and Abdel-Jawad, YA), April, 138

Failure strength

Biaxial tension-compression test method for composite laminates (Wang, JZ and Socie, DF), Oct., 336

Fatigue

Longitudinal fatigue response of a metal matrix composite under strain controlled mode at elevated temperature (Sanders, BP and Mall, S), Oct., 304

Micromechanics of ambient temperature cyclic fatigue loading in a composite of CAS glass ceramic reinforced with Nicalon fibers (Rousseau, CQ, Davidson, DL, and Campbell, JB), April, 115

Prediction of fatigue life of composite femoral prostheses using acoustic emission technique (Sundaresan, MJ, Henneke, EG, II, and Reifsnider, KL), April, 127

Fiber cracks

Longitudinal fatigue response of a metal matrix composite under strain controlled mode at elevated temperature (Sanders, BP and Mall, S), Oct., 304

Fiber-fiber interaction

Effect of fiber-fiber interaction on the strength properties of short fiber reinforced cements (Karam, GN), April, 154

Fiber-matrix adhesion

Interphase in unidirectional fiber-reinforced epoxies: effect on local stress fields (Jayaraman, K, Gao, Z, and Reifsnider, KL), Jan., 21

Fiber-matrix interphase

Interphase in unidirectional fiber-reinforced epoxies: effect on local stress fields (Jayaraman, K, Gao, Z, and Reifsnider, KL), Jan., 21

Fiber-reinforced epoxies

Interphase in unidirectional fiber-reinforced epoxies: effect on local stress fields (Jayaraman, K, Gao, Z, and Reifsnider, KL), Jan., 21

Fiber strains

Micromechanics of ambient temperature cyclic fatigue loading in a composite of CAS glass ceramic reinforced with Nicalon fibers (Rousseau, CQ, Davidson, DL, and Campbell, JB), April, 115

Fibrous composites

New failure criterion for nonlinear composite materials (Abu-Farsakh, GA and Abdel-Jawad, YA), April, 138

Finite element modeling

Residual stresses in SCS-6/Ti-24Al-11Nb composite: Part II—Finite element modeling (Rangaswamy, P and Jayaraman, N), Jan., 54

Fracture

Mixed mode energy release rates for adhesively bonded beam specimens (Fernlund, G and Spelt, JK), July, 234

Fracture energy

Effect of through thickness tensile and compressive stresses on delamination propagation fracture energy (Cui, W, Wisnom, MR, and Jones, MI), Oct., 329

G-H**Graphite/epoxy**

Effects of an expanding monomer on the tensile properties of graphite/epoxy (Orso, J and Vizzini, AJ), July, 270

Hip prosthesis

Prediction of fatigue life of composite femoral prostheses using acoustic emission technique (Sundaresan, MJ, Henneke, EG, II, and Reifsnider, KL), April, 127

Hole effects

Fracture behavior of a fiber-reinforced titanium matrix composite with open and filled holes at room and elevated temperatures (Roush, JT and Mall, S), July, 201

I**Impact damage**

Residual strength of impacted composites: analysis and tests (Gottesman, T, Girshovich, S, Drukker, E, Sela, N, and Loy, J), July, 244

In-plane shear

Failure behavior of plain weave fabric laminates under in-plane shear loading (Naik, NK and Ganesh, VK), Jan., 3

Interface strength

Measurement of interfacial properties for aluminum and titanium matrix alloy composites manufactured by vacuum plasma spray (Valente, T), July, 256

Interfacial region

Time-dependent behavior of continuous-fiber-reinforced metal matrix composites: modeling and applications (Tamin, MN, Zheng, D, and Ghonem, HJ), Oct., 314

Intermetallic matrix

Micromechanical modeling of process-induced residual stresses in Ti-24Al-11Nb/SCS-6 composite (Chandra, N, Ananth, CR, and Garmestani, H), Jan., 37

L**Laminate configuration**

Failure behavior of plain weave fabric laminates under in-plane shear loading (Naik, NK and Ganesh, VK), Jan., 3

Laminate strength

Analytical and experimental evaluation of 0/90 laminate tests for compression characterization (Wilson, DW, Altstädt, V, Maier, M, Prandy, J, Thoma, K, and Vinckier, D), April, 146

Laminates

Biaxial tension-compression test method for composite laminates (Wang, JZ and Socie, DF), Oct., 336

Life prediction

Prediction of fatigue life of composite femoral prostheses using acoustic emission technique (Sundaresan, MJ, Henneke, EG, II, and Reifsnider, KL), April, 127

Longitudinal

Longitudinal fatigue response of a metal matrix composite under strain controlled mode at elevated temperature (Sanders, BP and Mall, S), Oct., 304

M**Metal matrix composites**

Effect of laminate orientation on the thermomechanical fatigue behavior of a titanium matrix composite (Neu, RW and Nicholas, T), July, 214

Elevated temperature fatigue behavior of tungsten fiber reinforced superalloy composites (Yuen, JL and Petrusek, DW), Oct., 343

Fracture behavior of a fiber-reinforced titanium matrix composite with open and filled holes at room and elevated temperatures (Roush, JT and Mall, S), July, 201

Longitudinal fatigue response of a metal matrix composite under strain controlled mode at elevated temperature (Sanders, BP and Mall, S), Oct., 304

Measurement of interfacial properties for aluminum and titanium matrix alloy composites manufactured by vacuum plasma spray (Valente, T), July, 256

Micromechanical modeling of process-induced residual stresses in Ti-24Al-11Nb/SCS-6 composite (Chandra, N, Ananth, CR, and Garmestani, H), Jan., 37

Residual stresses in SCS-6/Ti-24Al-11Nb composite: Part I—Experimental (Rangaswamy, P, Revelos, WC, and Jayaraman, N), Jan., 47

Time-dependent behavior of continuous-fiber-reinforced metal matrix composites: modeling and applications (Tamin, MN, Zheng, D, and Ghonem, HJ), Oct., 314

Unidirectional tensile stress-strain response of BP-SiC fiber reinforced Ti-6Al-4V (Li, DS and Wisnom, MR), July, 225

Metal matrix laminates

Response of metal matrix laminates with temperature-dependent properties (Mirzadeh, JA and Herakovich, CT), Jan., 68

Micromechanics

Self-consistent fabric geometry model: modification and application of a fabric geometry model to predict the elastic properties of textile composites (Pastore, CM and Gowayed, YA), Jan., 32

Unidirectional tensile stress-strain response of BP-SiC fiber reinforced Ti-6Al-4V (Li, DS and Wisnom, MR), July, 225

Mixed mode

Mixed mode energy release rates for adhesively bonded beam specimens (Fernlund, G and Spelt, JK), July, 234

N-P**Nondestructive evaluations (NDE)**

Residual strength of impacted composites: analysis and tests (Gottesman, T, Girshovich, S, Drukker, E, Sela, N, and Loy, J), July, 244

Notched

Effect of notch on failure of two-dimensional $\pm 45^\circ$ triaxial braided textile composite materials (Norman, TL and Patrick, M), July, 262

Notched strength

Fracture behavior of a fiber-reinforced titanium matrix composite with open and filled holes at room and elevated temperatures (Roush, JT and Mall, S), July, 201

Plain weave

Classical laminate theory models for woven fabric composites (Raju, IS and Wang, JT), Oct., 289

Push-out

Measurement of interfacial properties for aluminum and titanium matrix alloy composites manufactured by vacuum plasma spray (Valente, T), July, 256

R**Random orientation fibers**

Development of strength theories for random fiber composites (Giurgiutiu, V and Reifsnider, KL), April, 103

Residual stresses

Micromechanical modeling of process-induced residual stresses in Ti-24Al-11Nb/SCS-6 composite (Chandra, N, Ananth, CR, and Garmestani, H), Jan., 37

Residual stresses in SCS-6/Ti-24Al-11Nb composite: Part II—Finite element modeling (Rangaswamy, P and Jayaraman, N), Jan., 54

Time-dependent behavior of continuous-fiber-reinforced metal matrix composites: modeling and applications (Tamin, MN, Zheng, D, and Ghonem, HJ), Oct., 314

S**Satin weaves**

Classical laminate theory models for woven fabric composites (Raju, IS and Wang, JT), Oct., 289

Silicon carbide

Micromechanical modeling of process-induced residual stresses in Ti-24Al-11Nb/SCS-6 composite (Chandra, N, Ananth, CR, and Garmestani, H), Jan., 37

Silicon carbide/titanium

Effect of laminate orientation on the thermomechanical fatigue behavior of a titanium matrix composite (Neu, RW and Nicholas, T), July, 214

Strain energy

New failure criterion for nonlinear composite materials (Abu-Farsakh, GA and Abdel-Jawad, YA), April, 138

Strain energy release rate

Effect of through thickness tensile and compressive stresses on delamination propagation fracture energy (Cui, W, Wisnom, MR, and Jones, MI), Oct., 329

Strength

Development of strength theories for random fiber composites (Giurgiutiu, V and Reifsnider, KL), April, 103

Stress-strain response

Development of strength theories for random fiber composites (Giurgiutiu, V and Reifsnider, KL), April, 103

Superalloys

Elevated temperature fatigue behavior of tungsten fiber reinforced superalloy composites (Yuen, JL and Petrusek, DW), Oct., 343

T**Tensile strength**

Fracture behavior of a fiber-reinforced titanium matrix composite with open and filled holes at room and elevated temperatures (Roush, JT and Mall, S), July, 201

Tension test methods

Unidirectional tensile stress-strain response of BP-SiC fiber reinforced Ti-6Al-4V (Li, DS and Wisnom, MR), July, 225

Tension

Effects of an expanding monomer on the tensile properties of graphite/epoxy (Orso, J and Vizzini, AJ), July, 270

Test techniques

Advanced test technique to quantify thermomechanical fatigue damage accumulation in composite materials (Castelli, MG), Oct., 323

Textiles

Effect of notch on failure of two-dimensional $\pm 45^\circ$ triaxial braided textile composite materials (Norman, TL and Patrick, M), July, 262

Self-consistent fabric geometry model: modification and application of a fabric geometry model to predict the elastic properties of textile composites (Pastore, CM and Gowayed, YA), Jan., 32

Thermal effects

Response of metal matrix laminates with temperature-dependent properties (Mirzadeh, JA and Herakovich, CT), Jan., 68

Thermal nondestructive evaluation

Field deployable nondestructive impact damage assessment methodology for composite structures (Zalameda, JN, Farley, GL, and Smith, BT), April, 161

Thermo-elastic properties

Thermo-elastic properties of composite laminates with transverse cracks (Varna, J and Berglund, LA), Jan., 77

Thermomechanical fatigue (TMF)

Advanced test technique to quantify thermomechanical fatigue damage accumulation in composite materials (Castelli, MG), Oct., 323

Effect of laminate orientation on the thermomechanical fatigue behavior of a titanium matrix composite (Neu, RW and Nicholas, T), July, 214

Through-the-thickness reinforcement

Field deployable nondestructive impact damage assessment methodology for composite structures (Zalameda, JN, Farley, GL, and Smith, BT), April, 161

Titanium matrix

Residual stresses in SCS-6/Ti-24Al-11Nb composite: Part II—Finite element modeling (Rangaswamy, P and Jayaraman, N), Jan., 54

Transverse cracking

Thermo-elastic properties of composite laminates with transverse cracks (Varna, J and Berglund, LA), Jan., 77

Triaxial braided

Effect of notch on failure of two-dimensional $\pm 45^\circ$ triaxial braided textile composite materials (Norman, TL and Patrick, M), July, 262

Tungsten fiber

Elevated temperature fatigue behavior of tungsten fiber reinforced superalloy composites (Yuen, JL and Petrusek, DW), Oct., 343

Two-dimensional woven fabric composite models

Failure behavior of plain weave fabric laminates under in-plane shear loading (Naik, NK and Ganesh, VK), Jan., 3

U-W

Ultrasonic testing

Residual strength of impacted composites: analysis and tests (Gottesman, T, Girshovich, S, Drukker, E, Sela, N, and Loy, J), July, 244

Ultrasonic volumetric imaging

Field deployable nondestructive impact damage assessment methodology for composite structures (Zalameda, JN, Farley, GL, and Smith, BT), April, 161

Woven fabric laminates

Failure behavior of plain weave fabric laminates under in-plane shear loading (Naik, NK and Ganesh, VK), Jan., 3

X-Z

X-ray diffraction

Residual stresses in SCS-6/Ti-24Al-

11Nb composite: Part I—Experimental (Rangaswamy, P, Revelos, WC, and Jayaraman, N), Jan., 47

Yielding

Response of metal matrix laminates with temperature-dependent properties (Mirzadeh, JA and Herakovich, CT), Jan., 68

0/90 laminates

Analytical and experimental evaluation of 0/90 laminate tests for compression characterization (Wilson, DW, Altstädt, V, Maier, M, Prandy, J, Thoma, K, and Vinckier, D), April, 146