Journal of Composites Technology & Research Index to Volume 13 1991

<table>
<thead>
<tr>
<th>Number</th>
<th>Issue</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Spring</td>
<td>1–64</td>
</tr>
<tr>
<td>2</td>
<td>Summer</td>
<td>65–144</td>
</tr>
<tr>
<td>3</td>
<td>Fall</td>
<td>145–210</td>
</tr>
<tr>
<td>4</td>
<td>Winter</td>
<td>211–298</td>
</tr>
</tbody>
</table>

A
Adams, D. F. and Odom, E. M.: Influence of test fixture configuration on the measured compressive strength of a composite material. Spring, 36

Aluminum matrix: Comparison of some micromechanics models for discontinuously reinforced metal matrix composites (Johnston and Birt), Fall, 161

Arsenault, R. J.: see Fortson, B. H. and Armanios, E. A.

Arsenault, R. J.: see Shi, N., and Arsenault, R. J.

Asymmetric constitutive behavior: Effect of thermal residual stresses on the asymmetric constitutive behavior of metal-matrix composites (Shi and Arsenault), Winter, 211

B

Berglund, L.: see Varma, J. and Berglund, L.

Bimaterial interface: Semi-infinite strip problem in the mechanics of composite materials (Kaw and Goree). Summer, 65

Birt, M. J.: see Johnson, W. S. and Birt, M. J.

Bolted joints
Effects of nonlinear intralaminar shear behavior on the modeling accuracy of [(0/90)/0]n, pin-loaded laminates (Serabian), Winter, 236
Finite element analysis of mixed-mode fracture of bolted composite joints (Chiang and Rowland), Winter, 227

Book reviews
Delaware Composites Design Encyclopedia: Volume 6/Test Methods by Pipes et al. (Wolfe), Summer, 142
Delamination in Advanced Composites by Newaz (O'Brien), Fall, 191
Manual on Experimental Methods for Mechanical Testing of Composites by Pendleton and Tuttle (Johnson), Winter, 291

C
Carbon/bismaleimide: Degradation and failure modes of carbon/bismaleimide laminates subjected to a tropical environment (Underwood and Kapusta), Fall, 179
Carbon/epoxy composites: Influence of test fixture configuration on the measured compressive strength of a composite material (Adams and Odom), Spring, 36
Chai, G. B. and Khong, P. W.: Stability study of coupling responses in laminates, Fall, 187
Chai, L.: see Dharani, L. R. and Chai, L.
Chamis, C. C.: see Mital, S. K. and Chamis, C. C.
Chan, V.: Design approaches for edge delamination in laminated composites, Summer, 91

Chiang, Y. J. and Rowland, R. E.: Finite element analysis of mixed-mode fracture of bolted composite joints, Winter, 227
Crack speed calculations for unidirectional laminates, Fall, 183
Claus, R. O.: see Murphy, K. A., Miller, M. S., Vengsarkar, A. M., and Claus, R. O.
Compliance: Multiple cracks in three-dimensional (3-D) unidirectional composites: compliance and energy release rates (Charai and Chai), Winter, 257
Composite structures: Design approaches for edge delamination resistance in laminated composites (Chan), Summer, 91
Compression testing: Influence of test fixture configuration on the measured compressive strength of a composite material (Adams and Odom), Spring, 36
Corrado, J. A.: Composites for naval ship structures, Spring, 61
Coupling responses: Stability study of coupling responses in laminates (Chai and Khong), Fall, 187
Crack speeds: Crack speed calculations for unidirectional laminates (Chiang), Fall, 183
Critical crack lengths: Crack speed calculations for unidirectional laminates (Chiang), Fall, 183

D
Daniel, I. M.: see Gidouet, E. E., Karakekas, D., and Daniel, I. M.
Delamination: Damage processes in a quasi-isotropic composite short beam under three-point loading (Fortson and Armanios), Winter, 249
Split cantilever beam test for characterizing Mode III interlaminar fracture toughness (Donaldson, Mall, and Lingg), Spring, 41
Delamination initiation criteria: Edge delamination of [(0°/90°)], laminates subjected to tensile loading (Sandhu and Sendeckyj), Summer, 78
Delamination moment coefficient: Edge delamination of [(±θ)], laminates subjected to tensile loading (Sandhu and Sendeckyj), Summer, 78
Delamination resistance: Design approaches for edge delamination resistance in laminated composites (Chan), Summer, 91
Design approaches: Design approaches for edge delamination resistance in laminated composites (Chan), Summer, 91
Dharani, L. R. and Chai, L.: Multiple cracks in three-dimensional (3-D) unidirectional composites: compliance and energy release rates, Winter, 257
Donaldson, S. L., Mall, S., and Lingg, C.: Split cantilever beam test for characterizing Mode III interlaminar fracture toughness, Spring, 41
Dralz, L. T.: see Waterbury, M. C. and Dralz, L. T.

E
Edge delamination
Delamination growth in a laminate with a postbuckled edge delamination (Whitcomb), Fall, 175
Edge delamination of [(0°/90°)], laminates subjected to tensile loading (Sandhu and Sendeckyj), Summer, 78
Elasticity: Semi-infinite strip problem in the mechanics of composite materials (Kaw and Goree), Summer, 65
Elastoplastic analysis: Micromechanical analysis of filamentary metal matrix composites under longitudinal loading (Gidouet, Karakekas, and Daniel), Fall, 168
Elliptical core fibers: Elliptical-core, dual-mode, optical fiber strain and vibration sensors for composite material laminates (Murphy, Miller, Vengsarkar, and Claus), Spring, 29
Energy release rate: Multiple cracks in three-dimensional (3-D) unidirectional composites: compliance and energy release rates (Dharani and Chai), Winter, 257
Failure analysis: Damage processes in a quasi-isotropic composite short beam under three-point loading (Fortson and Armanios), Winter, 249

Failure characteristics: Study of failure characteristics in thermoplastic composite material at 250°F (121°C) (Fisher, Palazzotto, and Sandhu), Fall, 152

Failure mechanisms: Degradation and failure modes of carbon/bismaleimide laminates subjected to a tropical environment (Underwood and Kapusta), Fall, 179

Fiber optic sensors: Elliptical-core, dual-mode, optical fiber strain and vibration sensors for composite material laminates (Murphy, Miller, Vengsarkar, and Claus), Spring, 29

Fibers

Fiber pushout test: a three-dimensional finite element computational simulation (Mital and Chamsis), Spring, 14

On the determination of fiber strength by in-situ fiber strength testing (Waterbury and Drzal), Spring, 22

Finite element analysis

Damage processes in a quasi-isotropic composite short beam under three-point loading (Fortson and Armanios), Winter, 249

Delamination growth in a laminate with a postbuckled edge delamination (Whitcomb), Fall, 175

Effects of nonlinear intralaminar shear behavior on the modeling accuracy of [(0/90)], and [(±45)], pin-loaded laminates (Scrabut), Winter, 236

Finite element analysis of mixed-mode fracture of bolted composite joints (Chiang and Rowland), Winter, 227

Finite strip: Stability study of coupling responses in laminates (Chai and Khong), Fall, 187

Fire exposure: Thermal response of fire-exposed composites (Milk and Vizzini), Fall, 145

Fisher, J. M., Palazzotto, A. N., and Sandhu, R. S.: Study of failure characteristics in thermoplastic composite material at 250°F (121°C), Fall, 152

Fortson, B. H. and Armanios, E. A.: Damage processes in a quasi-isotropic composite short beam under three-point loading, Winter, 249

Fractography

Damage processes in a quasi-isotropic composite short beam under three-point loading (Fortson and Armanios), Winter, 249

Split cantilever beam test for characterizing Mode III interlaminar fracture toughness (Donaldson, Mall, and Lingg), Spring, 41

Fracture mechanics: Delamination growth in a laminate with a postbuckled edge delamination (Whitcomb), Fall, 175

G-H

Gdoutos, E. E., Karalekas, D., and Daniel, I. M.: Micromechanical analysis of filamentary metal matrix composites under longitudinal loading, Fall, 168


Graphite-epoxy laminates

Edge delamination of (±0,90), laminates subjected to tensile loading (Sandhu and Sendeckyj), Summer, 78

Thermal response of fire-exposed composites (Milk and Vizzini), Fall, 145

Guest commentary: Composites for naval ship structures (Corrado), Spring, 61

Heat transfer: Thermal response of fire-exposed composites (Milk and Vizzini), Fall, 145

High-temperature testing: Study of failure characteristics in thermoplastic composite material at 250°F (121°C) (Fisher, Palazzotto, and Sandhu), Fall, 152

Hosur, M. V.: see Naik, N. K., Shembekar, P. S., and Hosur, M. V.

I

In situ: On the determination of fiber strength by in-situ fiber strength testing (Waterbury and Drzal), Spring, 22

Interface strength

Fiber pushout test: a three-dimensional finite element computational simulation (Mital and Chamsis), Spring, 14

Micromechanical modeling of fiber/matrix interface effects in transversely loaded SiC/Ti-6-4 metal matrix composites (Nimmer, Bankert, Russell, Smith, and Wright), Spring, 3

Interlaminar fracture: Split cantilever beam test for characterizing Mode III interlaminar fracture toughness (Donaldson, Mall, and Lingg), Spring, 41

Interphase: Fiber pushout test: a three-dimensional finite element computational simulation (Mital and Chamsis), Spring, 14

J-K

Johnson, W. S., and Birt, M. J.: Comparison of some micromechanics models for discontinuously reinforced metal matrix composites, Fall, 161


Kapusta, A. A.: see Underwood, J. H. and Kapusta, A. A.

Karalekas, D.: see Gdoutos, E. E., Karalekas, D., and Daniel, I. M.


Khong, P. W.: see Chai, G. B. and Khong, P. W.

Kinetic energy: Crack speed calculations for unidirectional laminae (Chiang), Fall, 183

L

Laminates

Degradation and failure modes of carbon/bismaleimide laminates subjected to a tropical environment (Underwood and Kapusta), Fall, 179

Delamination growth in a laminate with a postbuckled edge delamination (Whitcomb), Fall, 175

Elliptical-core, dual-mode, optical fiber strain and vibration sensors for composite material laminates (Murphy, Miller, Vengsarkar, and Claus), Spring, 29

Multiple transverse cracking and stiffness reduction in cross-ply laminates (Varna and Berglund), Summer, 97

Stability study of coupling responses in laminates (Chai and Khong), Fall, 187

Length strength: On the determination of fiber strength by in-situ fiber strength testing (Waterbury and Drzal), Spring, 22

Linear elastic fracture mechanics: Multiple transverse cracking and stiffness reduction in cross-ply laminates (Varna and Berglund), Summer, 97

Lingg, C.: see Donaldson, S. L., Mall, S., and Lingg, C.

M

Mall, S.: see Donaldson, S. L., Mall, S., and Lingg, C.

Mechanical joints: Finite element analysis of mixed-mode fracture of bolted composite joints (Chiang and Rowland), Winter, 227

Metal-matrix composites

Micromechanical analysis of filamentary metal matrix composites under longitudinal loading (Gdoutos, Karalekas, and Daniel), Fall, 168

Micromechanical modeling of fiber/matrix interface effects in transversely loaded SiC/Ti-6-4 metal matrix composites (Nimmer, Bankert, Russell, Smith, and Wright), Spring, 3

Micromechanics: Micromechanical analysis of filamentary metal matrix composites under longitudinal loading (Gdoutos, Karalekas, and Daniel), Fall, 168

Microstructure: Comparison of some micromechanics models for discontinuously reinforced metal matrix composites (Johnson and Birt), Fall, 161

Milk, J. A. and Vizzini, A. J.: Thermal response of fire-exposed composites, Fall, 145

Miller, M. S.: see Murphy, K. A., Miller, M. S., Vengsarkar, A. M., and Claus, R. O.


Mode III: Split cantilever beam test for characterizing Mode III interlaminar fracture toughness (Donaldson, Mall, and Lingg), Spring, 41

Multiple cracks: Multiple cracks in three-dimensional (3-D) unidirectional composites: compliance and energy release rates (Dharani and Chai), Winter, 257

Murphy, K. A., Miller, M. S., Vengsarkar, A. M., and Claus, R. O.: Elliptical-core, dual-mode, optical fiber strain and vibration sensors for composite material laminates, Spring, 29

N-O

Nimmer, R. P., Bankert, R. J., Russell, E. S., Smith, G. A., and Wright, P. K.: Micromechanical modeling of fiber/matrix interface effects in transversely loaded SiC/Ti-6-4 metal matrix composites, Spring, 3

Nonlinear materials: Effects of nonlinear intralaminar shear behavior on the modeling accuracy of [(0/90),0] and [(+45/-45)], pin-loaded laminates (Serabian), Winter, 236

O'Brien, T. K.: Review of Delamination in Advanced Composites by Newaz, Fall, 191

Off-axis: Failure behavior of woven fabric composites (Naik, Shembekar, and Hosur), Summer, 107

Push: Pushout test: a three-dimensional finite element computational simulation (Mital and Chamis), Spring, 14

Pushthrough: Fiber pushout test: a three-dimensional finite element computational simulation (Mital and Chamis), Spring, 14

Reorientation: Failure behavior of woven fabric composites (Naik, Shembekar, and Hosur), Summer, 107

Residual stress: Effect of thermal residual stresses on the asymmetric constitutive behavior of metal-matrix composites (Johnson and Bart), Fall, 161

S

Sandhu, R. S.: see Fisher, J. M., Palazzotto, A. N., and Sandhu, R. S.

Scratch and Sendeckyj, G. P.: Edge delamination of (±45°/90°c), laminates subjected to tensile loading, Summer, 78

see Fisher, J. M., Palazzotto, A. N., and Sandhu, R. S.

Scanning electron microscopy: Degradation and failure modes of carbon/bismaleimide laminates subjected to a tropical environment (Underwood and Kapusta), Fall, 179

Semi-infinite strip: Semi-infinite strip problem in the mechanics of composite materials (Kaw and Gores), Summer, 65

Sendeckyj, G. P.: see Sandhu, R. S. and Sendeckyj, G. P.

Serabian, S. M.: Effects of nonlinear intralaminar shear behavior on the modeling accuracy of [(0/90),0] and [(+45/-45)], pin-loaded laminates, Winter, 236

Shembekar, P. S.: see Naik, N. K., Shembekar, P. S., and Hosur, M. V.

Shi, N. and Arsenault, R. J.: Effect of thermal residual stresses on the asymmetric constitutive behavior of metal-matrix composites, Winter, 221

Silicon carbide/aluminum: Micromechanical analysis of filamentary metal matrix composites under longitudinal loading (Gdoutos, Karalekas, and Daniel), Fall, 168

Silicon-carbide particulate: Comparison of some micromechanics models for discontinuously reinforced metal matrix composites (Johnson and Bart), Fall, 161

Sendeckyj, G. P. and Satas, D. I.: Micromechanical modeling of fiber/matrix interface effects in transversely loaded SiC/Ti-6-4 metal matrix composites (Nimmer, Bankert, Russell, Smith, and Wright), Spring, 3

Sonic: see Wright, P. K.

Stability: Stability study of coupling responses in laminates (Chai and Khong), Fall, 187

Stereo X-rays: Study of failure characteristics in thermoplastic composite material at 250°F (121°C) (Fisher, Palazzotto, and Sandhu), Fall, 152

Stiffness reduction: Multiple transverse cracking and stiffness reduction in cross-ply laminates (Varna and Berglund), Summer, 97

Strength testing: On the determination of fiber strength by in-situ fiber strength testing (Waterbury and Drzal), Spring, 22

Stress intensity factors: Finite element analysis of mixed-mode fracture of bolted composite joints (Chiang and Rowland), Winter, 227

T

Test fixtures: Influence of test fixture configuration on the measured compressive strength of a composite material (Adams and Odom), Summer, 78

see Fisher, J. M., Palazzotto, A. N., and Sandhu, R. S.

Thermal conductivity: Thermal response of fire-exposed composites (Milke and Vizzini), Fall, 145

Thermoplastics: Study of failure characteristics in thermoplastic composite material at 250°F (121°C) (Fisher, Palazzotto, and Sandhu), Fall, 152

Titanium silicon carbide: Micromechanical modeling of fiber/matrix interface effects in transversely loaded SiC/Ti-6-4 metal matrix composites (Nimmer, Bankert, Russell, Smith, and Wright), Spring, 3

Transverse cracking: Multiple transverse cracking and stiffness reduction in cross-ply laminates (Varna and Berglund), Summer, 97

U-V

Unbalanced plain weave: Failure behavior of woven fabric composites (Naik, Shembekar, and Hosur), Summer, 107

Underwood, J. H. and Kapusta, A. A.: Degradation and failure modes of carbon/bismaleimide laminates subjected to a tropical environment, Fall, 179

Unidirectional composites: Influence of test fixture configuration on the measured compressive strength of a composite material (Adams and Odom), Spring, 3

Multiple cracks in three-dimensional (3-D) unidirectional composites: compliance and energy release rates (Dharani and Chai), Winter, 257

Unidirectional laminates: Crack speed calculations for unidirectional laminae (Chiang), Fall, 183

Varna, J. and Berglund, L.: Multiple transverse cracking and stiffness reduction in cross-ply laminates, Summer, 97

Vengsarkar, A. M.: see Murphy, K. A., Miller, M. S., Vengsarkar, A. M., and Claus, R. O.

Vizzini, A. J.: see Milke, J. A. and Vizzini, A. J.

W

Waterbury, M. C. and Drzal, L. T.: On the determination of fiber strengths by in-situ fiber strength testing, Spring, 22

Wave-propagation speeds: Crack speed calculations for unidirectional laminae (Chiang), Fall, 183

Whisker-reinforced metal-matrix composites: Effect of thermal residual stresses on the asymmetric constitutive behavior of metal-matrix composites (Shi and Arsenault), Winter, 211

Whitcomb, J. D.: Delamination growth in a laminate with a postbuckled edge delamination, Fall, 175


Woven fabrics: Failure behavior of woven fabric composites (Naik, Shembekar, and Hosur), Summer, 107