

PUBLICATIONS

A. BOOKS

1. ANALYSIS AND PERFORMANCE OF FIBER COMPOSITES, Third Edition
B.D. Agarwal, L.J. Broutman and K. Chandrashekhara John Wiley & sons,
New York, 2006; 562 pages
2. ANALYSIS AND PERFORMANCE OF FIBER COMPOSITES, Second Edition
B.D. Agarwal and L.J. Broutman John Wiley & sons, New York, (SPE
Monograph), 1990; 449 pages
3. ANALYSIS AND PERFORMANCE OF FIBER COMPOSITES B.D. Agarwal
and L.J. Broutman John Wiley & Sons, New York, (SPE Monograph), 1980;
355 pages
4. ANALYSIS AND PERFORMANCE OF FIBER COMPOSITES, Czech
Translation (Translators: Lubonir Sodomka, Richard Bares, Jan Javomicky,
and Jaroslava Zemankeva) B.D. Agarwal and L.J. Broutman, SNTL-Praha
1987

B. BOOK CHAPTERS

1. "Fracture Toughness of Fiber Reinforced Composites", in Encyclopedia of
Engineering Materials, Edited by N.P. Cheremisinoff, Marcel Dekker, New
Jersey, 1990
2. "Fracture Toughness of Glass/Epoxy Composites through J-integral
Approach", in Advances in Aerospace Structures and Allied Fields, Edited by
T.K. Vardan, 1988

C. RESEARCH PAPERS PUBLISHED IN REFEREED JOURNALS

(Grouped according to research areas)

I. Fracture of Composite Materials

1. "Crack Induced Dynamic Damage Growth in Fibre Composites", Mechanics of
Composite Materials and Structures, Vol. 2, 1995, p. 295-308, (with K.K.
Bajpai and Rajesh Sharma).
2. "Influence of Moisture Absorption on Fracture Toughness of Kevlar
Fabric/Epoxy Composite", Journal of The Institution of Engineers (India), Vol.
76, September 1995, p. 23-28, (with S.Ravi and NGR Iyengar).
3. "Determination of Stress Intensity Factor in Orthotropic Composite Materials
Using Strain Gages", Engineering Fracture Mechanics, Vol. 32, No. 3, 1989,
p. 469-477, (with A. Shukla and Bharat Bhushan).

4. "Fracture Toughness of Glass/Epoxy Laminates Through J-Integral Approach", Composite Structures, Vol. 9, 1988, p. 37-51, (with K.K. Bajpai).
5. "Influence of Specimen Width, Thickness and Fibre Concentration on Fracture Toughness (J_0) of Short Fibre Composite", Journal of Aerospace Engineering, Division of the Institution of Engineers (India), Vol. 66, Part AE2, March 1986, p. 47-51, (with B.S. Patro and P. Kumar).
6. "Determination of the Fracture Toughness of Fabric Reinforced Composites by the J-Integral Approach", Composites Science and Technology Vol. 25, No. 4, 1986, p. 311-323, (with S.K. Khanna and P. Kumar).
7. "Crack Length Estimation Procedure for Short Fiber Composites: An Experimental Evaluation", Polymer Composites, Vol. 6, No.3, July 1985, p. 185-190, (with B.S. Patro and P. Kumar).
8. "Prediction of Instability Point During Fracture of Composite Materials", Composites Technology Review, Spring 1985, p. 173-176, (with B.S. Patro and P. Kumar).
9. "Fracture Behavior of Glass-Cloth Reinforced Composites", Polymer Composites, Vol. 6, No. 1, Jan. 1985, p. 29-33, (with D.C. Agarwal and K. Banerjee).
10. "J-Integral as Fracture Criterion for Short Fiber Composites: An Experimental Approach", Engineering Fracture Mechanics, Vol. 19, No. 4, 1984, p. 675-684, (with B.S. Patro and P. Kumar).
11. "Influence of Matrix Properties on Fracture Toughness of Short Fiber Composites", Materials Science and Engineering, Vol. 52, No. 2, 1982, p. 139-145, (with G.S. Giare).
12. "Crack Growth Resistance of Short Fiber Composites: I - Influence of Fiber concentration, Specimen Thickness, and Width", Fibre Science and Technology, Vol. 15, No.4, 1981, p. 283-298, (with G.S. Giare).
13. "Crack Growth Resistance of Short Fiber Composites: II - Influence of Test temperature", Fibre Science and Technology, Vol. 16, No. 1, 1982, p. 19-28. (with G.S. Giare).
14. "Fracture Toughness of Short Fiber Composites in Mode II and III", Engineering Fracture Mechanics, Vol. 15, No. 1-2, 1981, p. 219-230, (with G.S. Giare). II. Non-Destructive Evaluation
15. "Acoustic Emission Studies of Fatigue Damage Growth in Carbon Fabric Reinforced Epoxy 7 Composite", Advanced Composite Materials, Vol. 2, No. 2, p. 117-134, 1992 (with N.K. Arya and N.G.R. Iyengar).

16. "Development of an Automated Ultrasonic C-Scan System for Composite Materials", Journal of Pure and Applied Ultrasonics, Vol. 12, No. 4, 1990 (with S.Y. Mahajan and N.N. Kishore).
17. "Damage Characterization in Kevlar/epoxy Composites Using Acoustic Emission Technique", Journal of Pure and Applied Ultrasonics, Vol. 11, 1989, p. 54-61, (with D.S. Rajan and N.N. Kishore).

II. Fatigue of Composite Materials

18. "Damage Initiation and Growth in Kevlar/Epoxy Composite Subjected to Axial Fatigue Loading", The Journal of The Aeronautical Society of India, Vol. 41, No. 4, Nov. 1989, p. 357-365, (with S.K. Majumdar).
19. "Strain Controlled Flexural Fatigue of Unidirectional Composite", Composites Technology Review, Vol. 4, No. 1, Spring 1982, p. 6-13, (with S.K. Joneja).
20. "Strain Controlled Off-axis (10°) Flexural Fatigue of Unidirectional Composite", Fibre Science and Technology, Vol. 14, 1981, p. 69-80, (with S.K. Joneja).
21. "Flexural Fatigue of a Unidirectional Composite in Longitudinal Direction", Materials Science and Engineering, Vol. 46, 1980, p. 63-68, (with S.K. Joneja).
22. "Progressive Damage in GFRP Under Constant Deflection Flexural Fatigue", Fibre Science and Technology, Vol. 12, No. 5, September 1979, p. 341-352, (with S.K. Joneja).
23. "Flexural Fatigue Properties of Unidirectional Composites in Transverse Direction", Composites Vol. 10, No. 1, January 1979, p. 28-30, (with S.K. Joneja).
24. "Predictions of Low Cycle Fatigue Behavior of GFRP: An Experimental Approach", Journal of Materials Science, Vol. 10, No.1, January 1975, p. 193-199, (with J.W. Dally).
25. "Low Cycle Fatigue Behavior of Glass Fiber Reinforced Plastics", Proceedings of the Army Symposium on Solid Mechanics, 1970 - Lightweight Structures, Watertown, Massachusetts, AIVITVIRC MS 70-5, December 1970, (with J.W. Dally).W. Photo-Orthotropic-Elasticity
26. "A Stress Separation Technique for Photo-Orthotropic Elasticity", Composites Technology Review, Vol. 5, No. 3, Fall 1983, (with P.K. Jha).
27. "An Approximate Method of Orthotropic Photoelastic Analysis", Experimental Mechanics, 8 Vol. 23, No. 1, March 1983, p. 55-58.
28. "Exact and Approximate Strain Optic Laws for Photoelastic Composites", Polymer Composites, Vol. 3, No. 3, July 1982, p. 146-151, (with S.K. Chaturvedi).

29. "Improved Bifringent Composites and Assessment of Photoelastic Theories", *Fibre Science and Technology*, Vol. 11, No. 6, November 1978, p. 399-422, (with S.K. Chaturvedi).
30. "Development and Characterization of Optically Superior Photoelastic Composite Materials", *International Journal of Mechanical Sciences*, Vol. 20, No. 7, 1978, (with S.K. Chaturvedi).

III. Finite Element Analysis

31. "Effect of an Interfacial Layer on the Properties of Fibrous Composites: A Theoretical Analysis", *Fibre Science and Technology*, Vol. 12, No. 2, March 1979, p. 149-158, (with R.K. Bansal).
32. "Plastic Analysis of Fibre Interactions in Discontinuous Fibre Composites", *Fibre Science and Technology*, Vol. 10, No. 4, October 1977, p. 281-297, (with R.K. Bansal).
33. "A Theoretical Study of the Effect of an Interfacial on the Properties of Composites", *Polymer Engineering and Science*, Vol. 14, No. 8, August 1974, p.581-588, (with L.J. Broutman).
34. "Effect of the Interface on the Mechanical Properties of Composite Materials", *Rheologica Acta*, Vol. 13, No. 8, June 1974, p. 1128-1134, (with L.J. Broutman).
35. "Three-Dimensional Finite Element Analysis of Spherical Particle Composites", *Fibre Science and Technology*, Vol. 7, No. 1, January 1974, p. 63-68, (with L.J. Broutman).
36. "Elastic Plastic Finite Element Analysis of Short Fibre Composites", *Fibre Science and Technology*, Vol. 7, No. 1, January 1974, p. 45-62, (with J.M. Lifshitz and L.J. Broutman).
37. "A Theoretical Analysis of the Effect of the Interface on Composite Toughness", SPI. 28th Annual Technical Conference. Section IV-B, February 1973, p. 1-8, (with L.J. Broutman).
38. "Micromechanics Analysis of Porus and Filled Ceramic Composites", *Journal of American Ceramic Society*, Vol. 54, No. 12, Dec. 1971, p. 620-624, (with G.A. Panizza and L.J. Broutman). VI. Others
39. "The Role of Numerical Stress Analysis in Failure Analysis of a Medical Device", *Plastics Engineering*, Vol. LV, No. 5, May 1999, p. 45-47, (with Y. Chen and Paul K. So).9

40. "Semianalytical Solution for Epoxy-amine Curing in the Presence of Nonisothermal Effects", Polymer Engineering and Science, Vol.34, No.5, March 1994, p. 405-413, (with S. Gupta and A. Kumar)
41. "Dynamic Compressive Behaviour of Unidirectional GFRP for Various Fibre Orientations", Materials Letters, Vol. 4, No. 2, February 1986, p. 111-116, (with P. Kumar and Anita Garg).
42. "High Strain Rate Behaviour of Unidirectional GFRP", Journal of Aeronautical Society of India, Vol. 38, No. 1, February 1986, p. 11-16, (with P. Kumar and Anita Garg).
43. "Damping Characteristics of Fibre Composites with Imperfect Bonding Part I- Low Volume Fraction Composites", Journal of Reinforced Plastics and Composites, Vol. 1, 1982, p. 40-63, (with N.N. Kishore and A. Ghosh).
44. "Damping Characteristics of Fibre Composites with Imperfect Bonding Part II- Low Volume Fraction Composites", Journal of Reinforced Plastics and Composites, Vol. 1, 1982, p. 64-81, (with N.N. Kishore and A. Ghosh).
45. "Damping Characteristics of Particulate Composites with Imperfect Bonding", Journal of Reinforced Plastics and Composites, Vol. 1, 1982, p. 353-369, (with N.N. Kishore and A. Ghosh).
46. "Brittle Coating Analysis of Orthotropic Materials", International Journal of Engineering Science, Vol. 17, No. 2, 1979, p. 169-172, (with S.K. Chaturvedi).
47. "Brittle Coating Studies of Fibrous Composites", STRAIN, Vol. 14, 1978, p. 131-136, (with S.K. Chaturvedi).
48. "Strength and Failure Mechanisms of Anisotropic Composites", Fibre Science and Technology, Vol. 10, No. 1, January 1977, p. 37-51, (with J.N. Narang).

D. PAPERS PUBLISHED IN SEMINARS, SYMPOSIA, CONFERENCE VOLUMES

1. "Steel Wire Reinforced Plastic Composite Pipe" Proceedings of the SPE's 62 Annual Technical Conference, Chicago, IL, May 16-20, 2004, (with L.J. Broutman and D.B. Edwards).
2. "Finite Element Analysis of Plastic Plumbing Assemblies" Proceedings of the SPE's 57th Annual Technical Conference, New York, NY, May 2-6, 1999, (with Y. Chen and L.J. Broutman).
3. "Dynamic Damage Growth Studies in Fiber Composites", Proc. International Conference on Fibre Reinforced Structural Plastics in Civil Engineering, IIT Madras, p. 334-338, December 18-20, 1995, (with K.K. Bajpai, S. Ravi, and R. Sharma).