

Table of Contents

Preface

Fatigue Behavior of Aerospace Al-Cu, Al-Li and Al-Mg-Si Sheet Alloys N.D. Alexopoulos, V. Migklis, S.K. Kourkoulis and Z. Marioli-Riga	1
Experimental and Numerical Study of Interfacial Fracture Parameters of a Braze Joints A. Baazaoui, T. Fourcade, O. Dalverny, J. Alexis and M. Karama	9
3D Remeshing Simulation of Aluminum Foams Behavior under Static Load S.J. Zhu, A. Cherouat, H. Borouchaki and X.L. Gong	17
Numerical Simulation of Composite Hemp Fibers Behavior for Aircraft Application A. Cherouat, G. Montay and F. Ilczyszyn	25
Modeling the Residual Stress in Woven Thermoset Composites Parts for Aerospace Applications Using Finite Element Methods Y. Nawab, C.H. Park, A. Saouab, R. Agogué and P. Beauchêne	32
Concept of the Tip Effect in Single Walled Carbon Nanotube K. El-Hami and A. El-Hami	37
Nanocomposite Based Carbon Nanotubes for Electromechanical Application K. El-Hami and A. El-Hami	41
Numerical Modeling of the Flow of Particle-Filled Resin through a Dual Scale Fibrous Media H. Haji and A. Saouab	44
Analysis of the Hydroforming Process Using Metamodels A. El Hami and B. Radi	52
Weldability of Superalloys Hastelloy X by Yb: YAG Laser J. Graneix, J.D. Beguin, J. Alexis and T. Masri	61
A New Parameter Identification Approach by Experimental Design and Multiple Regressions Method: Application to the Elastoplastic Damage Constitutive Law of a Steel Thin Parts M.T. Nasri, S. Faouzi, M.A. Rezgui, M. Ayadi and A. Cherouat	71
Thermo-Viscoelastic Modeling of the Aircraft Tire Cornering I. Rosu, L. Elias-Birembaux and F. Lebon	80
Reliability Study of a Coupled Three-Dimensional System with Uncertain Parameters R. El Maani, B. Radi and A. El Hami	87
Reliability Based Design Optimization Framework for Boat Propeller A. Makhloifi, M. Mansouri, B. Radi and A. El Hami	94
Hybrid Evolutionary Optimization Algorithm for Structures N. El Hami, M. Itmi and A. El Hami	102
Simulation and Optimization of an Actuator N. El Hami, M. Itmi and A. El Hami	110
Thick Composite Structures under a Load Pinch M. Karama	120
Stress Reduction in Bone/Dental Implant Interface Using Elastomeric Stress Absorbers A. Belarbi, B. Mansouri, G. Mehdi, M. Belhouari and Z. Azari	129
A New Reverse Engineering Method for the 3D Surface Reconstruction without Contact L. Giraud-Moreau, R. Slysz and H. Borouchaki	140