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CONTRIBUTION OF IMAGE PROCESSING TECHNIQUES TO THE SIMULATION OF CHEMICAL VAPOR INFILTRATION OF SiC IN CMCs ABSTRACT; INTRODUCTION; OVERALL STRATEGY; IMAGE ANALYSIS TOOLS; IMAGE SYNTHESIS; INFILTRATION SIMULATIONS; SUMMARY AND OUTLOOK; ACKNOWLEDGEMENTS; REFERENCES; IMAGE-BASED NUMERICAL SIMULATION OF THERMAL EXPANSION IN C/C COMPOSITES; ABSTRACT; INTRODUCTION; MATERIAL AND CHARACTERIZATIONS; STRATEGY AND METHODS; RESULTS AND DISCUSSION; SUMMARY AND OUTLOOK; ACKNOWLEDGEMENTS; REFERENCES; ANALYSIS AND MOLECULAR MODELING OF PYROLYTIC CARBONS NANOTEXTURES; ABSTRACT; INTRODUCTION; MATERIALS NUMERICAL METHODS RESULTS AND DISCUSSION; SUMMARY AND OUTLOOK; ACKNOWLEDGEMENTS; REFERENCES; A NEW KINETIC MONTE-CARLO/VOLUME-OF-FLUID SOLVER FOR THE ANISOTROPIC SURFACE RECESSION OF C/C COMPOSITES BY ABLATION; ABSTRACT; INTRODUCTION; METHOD: PRINCIPLE AND IMPLEMENTATION; TEST CASES : PRESENTATION AND QUASI-ANALYTIC SOLUTIONS; TEST RESULTS; APPLICATION EXAMPLE; ACKNOWLEDGEMENTS; REFERENCES; NUMERICAL SIMULATION OF OXIDATION-ASSISTED FAILURE OF CMC-SiC AT INTERMEDIATE TEMPERATURE; ABSTRACT; INTRODUCTION; MICROSTRUCTURAL CHARACTERISTICS OF MICRO CMC-SiC MICROSTRUCTURE MODELING OF OXIDIZED MICRO CMC-SiC OXIDATION KINETICS MODEL; MODELLING THE OXIDIZED MICROSTRUCTURE; COMPUTATION METHOD OF STRESS DISTRIBUTION AND FAILURE BEHAVIOR OF OXIDIZED MICRO CMC-SiC; PERIODICAL BOUNDARY CONDITIONS; NUMERICAL EXAMPLES; FAILURE OF MICRO SiC/SiC; CONCLUSION; ACKNOWLEDGEMENT; REFERENCES; Advanced Ceramic Fibers, Interfaces, and Interphases; SUPPRESSION OF -Al₂O₃ FORMATION FROM ALUMINA GEL FIBERS BY UREA-CATALYZED TEOS-DERIVED SILICA; ABSTRACT; INTRODUCTION; EXPERIMENTAL; RESULTS AND DISCUSSION; CONCLUSION; REFERENCES
CERAMIX MATRIX MICROCOMPOSITES PREPARED BY P-RCVD WITHIN THE (Ti-Si-B-C) SYSTEM

Sommario/riassunto

This proceedings contains 78 papers from the 8th International Conference on High Temperature Ceramic Matrix Composites, held September 22-26, 2013 in Xi'an, Shaanxi, China. Chapters include: Ceramic Genome, Computational Modeling, and Design Advanced Ceramic Fibers, Interfaces, and Interphases Nanocomposite Materials and Systems Polymer Derived Ceramics and Composites Fiber Reinforced Ceramic Matrix Composites Carbon-Carbon Composites: Materials, Systems, and Applications Ultra High Temperature Ceramics and MAX Phase
