



Special Issue “Recent Advances in Machining Modeling of Composite Structures”

Journal of Structural Design and Numerical Methods (JSDNM)

Guest Editor:

Jinyang Xu is an Associate Professor and a Doctoral Supervisor of Mechanical Engineering at Shanghai Jiao Tong University, China. His research interests focus on composites machining, numerical modeling, and surface texturing. He has published over fifty peer-reviewed articles and edited four special issues in refereed international journals and conference proceedings. He is currently serving as the Co-Editor-in-Chief of Journal of

Coating Science and Technology (JCST) and the Academic Editors/Board Members of International Journal of Aerospace Engineering (indexed by SCI), Advances in Materials Science and Engineering (indexed by SCI) and Current Materials Science (CMS). He is the principal investigator of some national and provincial projects including the NSFC fund projects, Shanghai Pujiang Talents Program, Shanghai Academy of Spaceflight Technology projects, as well as a number of industrial projects. For his research contributions to the machining science of composite/metal stacks, he received the Best Paper Awards at the CJUMP2017 (November 19-21, 2017, Shanghai, China) and the ISGMA2015 (June 23-27, 2015, Qingdao, China) conferences. He was nominated for the Pierre Bézier Doctoral Dissertation Award in 2016 and was the recipient of the National Government Study Abroad Scholarship of China (2013), the Excellent Master Thesis Award of Shanghai Municipality (2013), the Excellent Graduate Award of Shanghai Municipality (2013), and the National Graduate Scholarship of China (2012).

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Call for Papers:

Composite structures have been extensively used in the modern industrial fields due to their superior mechanical/physical properties and excellent functionalities. Prior to their final applications, machining operations such as trimming, turning, milling or drilling are necessary to create the desired part dimensions and quality. Therefore, a thorough understanding of the mechanisms controlling the various machining processes of composite structures becomes essential.

To reduce the high costs of experimental studies, numerical modeling has been a promising alternative to conventional experimentation, allowing a more quantitative analysis of the chip removal and damage formation mechanisms governing the composites machining. Different types of numerical modeling methods have been developed in recent decades such as the micro-mechanical modeling, macro-mechanical modeling, discrete element modeling, etc.

This special issue aims to report the recent advances and latest achievements gained by international scholars specializing in the fields of machining modeling of composite structures. The machining operations include but are not limited to orthogonal cutting, turning, milling, drilling, etc. The composite structures are not only limited to PMCs, CMCs, MMCs, but also include metallic-composite stacks or multilayer sandwiches. The utilized numerical simulation methods can include both the finite element and discrete element modeling.

Full-length papers, case studies as well as reviews covering any aspect of cutting modeling of composite structures such as the chip removal, forces, temperatures, and surface quality are welcome.

The goal of this special issue “Recent Advances in Machining Modeling of Composite Structures” is to bring together the latest advances and developments on the modeling of composites machining.

This special issue seeks to publish papers aimed at addressing significant issues and contributing toward the introduction of new concepts, methodologies, and knowledge to the modeling techniques of composites machining. We are happy to invite you to submit an article for the Journal of Structural Design and Numerical Methods (JSDNM) for a special issue “**Recent Advances in Machining Modeling of Composite Structures**”.

Original articles in the following topics are welcome for submission.

Specific topics:

- Finite Element Analysis
- Discrete Element Analysis
- Composite Structures
- Machining Processes
- Chip Removal Mechanisms
- Cutting Forces
- Machining Temperatures
- Surface Quality
- Damage Formation

Evaluation by EiC:

Since this Special Issue will be organized by journal AEs therefore, the EiC will be responsible for evaluating the papers based on scope, feasibility, and technical merit. The decision on the Acceptance or Revision of Paper will be taken by EiC.

Manuscript Submission (Guidelines):

□ Papers will be submitted through regular submission process: author can register by using the link <http://rationalpublication.com/registration.php> , after reading “Instructions to authors” through <http://rationalpublication.com/cs/es/instruction-to-authors.php> , thereafter, manuscript will be submitted through <http://rationalpublication.com/admin/login> , two files are required for submission: 1) Cover Letter (mention Special Issue “Recent Advances in Machining Modeling of Composite Structures”); 2) Manuscript.

□ The Managing AE will be responsible for organizing the view process. The review process will be the same as for the regular submission.

Suggested Time-line:

- Manuscript Submission Due: 30 September, 2020
- First Review Completed: 31 October, 2020
- Revised Manuscript Due: 30 November, 2020
- Second Revision Completed and Final Decision: 15 December, 2020
- Final Manuscript Due: 31 December, 2020

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