Special Issue

Dynamics and Machining Stability for Flexible Systems

Message from the Guest Editors

Multi-axis milling, turning, and grinding of thin-walled structures using flexible machining systems have many inherent challenges due to vibrations and chatter as well as dimensional errors. Recent innovations in tooling, AI-assisted approaches, and process modelling promise near optimal cutting performance by minimizing vibrations and compensating for errors. In this Special Issue, we invite submissions related but not limited to the following topics: - Modelling, simulation, or digital twinning solutions of machine tool vibrations and chatter stability with flexible machining systems
- System identification, modal analysis, or process monitoring of flexible systems
- Chatter avoidance in flexible machining systems through active and passive damping solutions, tool geometry design, or path planning strategies
- Active control in compliant grinding such as robotic polishing
- Artificial Intelligence and Machine Learning in vibration prediction and control
- Nonlinearities in flexible machining systems
- Special challenging processes such as turn-milling, vibration-assisted machining, or micro-machining
- Challenges associated with machining of additively manufactured components

Guest Editors

Dr. Zekai Murat Kilic
Prof. Dr. Jixiang Yang
Dr. Mohit Law

Deadline for manuscript submissions

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Journal of Manufacturing and Materials Processing
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
jmmp@mdpi.com

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Message from the Editor-in-Chief

Journal of Manufacturing and Materials Processing (*JMMP*)(ISSN 2504-4494) is a new MDPI peer-reviewed, open access venue with a focus on the scientific fundamentals and engineering methodologies of manufacturing and materials processing. We offer an online platform facilitating effective exchange of innovative scientific and engineering ideas and the dissemination of recent, original, and significant research and developmental findings. On behalf of the Editorial Board, I extend an invitation to our scientific and engineering colleagues to contribute high-quality, innovative, and ground-breaking research articles to *JMMP.*

Editor-in-Chief

Prof. Dr. Steven Y. Liang
George W. Woodruff School of Mechanical Engineering, Georgia Institute of Technology, Atlanta, GA 30332-0405, USA

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