Special Session Proposal

Special Session Basic Information:

专栏题目 Session Title	中文：航空航天材料精密加工及检测 英文：Precision Machining and inspection of Aerospace materials

专栏介绍和征稿主题
Introduction and topics

中文：本专栏聚焦航空航天材料精密/超精密加工技术及高精度检测方法的最新进展与挑战。随着航空、航天领域对高性能零部件的需求日益增长，实现微米级加工精度、优异的表面完整性以及可靠的质量控制至关重要。本专栏征集关于航空航天材料（如钛合金、复合材料、高温合金等）创新加工工艺、先进测量技术、智能过程监控及绿色制造等方面的研究论文。重点关注（但不限于）以下方向：复合能场加工工艺、刀具磨损优化、在线监测技术、无损检测（NDT）及基于人工智能的质量控制方法。诚邀学术界与工业界专家分享前沿研究成果，共同推动航空航天制造技术的发展。

征稿主题：

1.航空航天材料复合能场精密加工技术
2.航空航天零部件的超精密磨削与抛光
3.加工过程在线监测与自适应控制
4.航空航天制造中的无损检测与精密测量
5.航空航天材料的绿色与智能制造策略

英文：This column focuses on the latest advancements and challenges in precision/ultra-precision machining technologies, as well as high-accuracy inspection methods for aerospace materials. With the increasing demand for high-performance components in the aviation and aerospace industries, achieving micron-level machining accuracy, superior surface integrity, and reliable quality control has become critically important. We invite research papers on innovative machining processes, advanced measurement techniques, intelligent process monitoring, and sustainable manufacturing for aerospace materials (e.g., titanium alloys, composites, and high-temperature superalloys).Key areas of interest (including but not limited to): hybrid energy-field machining processes, tool wear optimization, in-process monitoring technologies, non-destructive testing (NDT), and AI-based quality control methods. Researchers and industry experts are welcome to share cutting-edge findings to collectively advance aerospace manufacturing technologies.

Topics of Interest(including but not limited to):

1.Hybrid Energy-Field Precision Machining Technologies for Aerospace Materials
2.Ultra-Precision Grinding and Polishing of Aerospace Components
3.In-Process Monitoring and Adaptive Control in Machining
4.Non-Destructive Testing and Precision Metrology in Aerospace Manufacturing
5.Green and Intelligent Manufacturing Strategies for Aerospace Materials

Special Session Chair(s):

姓名 **Name**	Wenhui Li
称谓 **Prefix**	Professor/Dean
部门 **Department**	College of Mechanical Engineering
单位 **Organization**	Tianjin University of Science and Technology

	城市/地区 **City/Region**	Tianjin Economic and Technological Development Area, Tianjin

Organizer's Brief Biography

中文：李文辉，男，博士，教授，博士生导师。天津科技大学机械工程学院院长，三晋英才支持计划拔尖骨干人才，山西省学术技术带头人，山西高校“131”领军人才工程优秀中青年拔尖创新人才，山西省高校教学名师。零件表面光整加工技术山西省科技创新重点团队、山西省高端装备典型零件表面成性联合实验室、成性制造技术山西省国防先进技术创新中心负责人。

英文：Wenhui Li, male,Ph.D., Professor, Ph.D. supervisor. Dean of the College of Mechanical Engineering at Tianjin University of Science and Technology. A top talent under the Sanjin Talent Support Plan, an academic and technical leader in Shanxi Province, an outstanding innovative young talent in the "131" Leading Talent Project of Shanxi Universities, and a renowned teacher in Shanxi higher education. The head of Shanxi Provincial Key Team for Scientific and Technological Innovation in Surface Finishing Technology of Parts, director of the Joint Laboratory for Surface Forming of Typical Parts in High-end Equipment of Shanxi Province.

姓名 **Name**	Yan Wang
称谓 **Prefix**	Associate Professor
部门 **Department**	College of Mechanical Engineering
单位 **Organization**	Tianjin University of Science and Technology
城市/地区 **City/Region**	Tianjin Economic and Technological Development Area, Tianjin

Organizer's Brief Biography

中文： 王岩，男，天津大学-波士顿大学机械工程联合培养博士，天津科技大学副教授，博士生导师。主要从事航空航天特种装备研发、航空航天材料精密与特种加工工艺及检测技术相关教学和科研工作，主持航空航天科研项目 7 项，在《International Journal of Machine Tools & Manufacture》、《Journal of Materials Processing Technology》、《Journal of Manufacturing Processes》、《航空制造技术》等发表 SCI/EI 论文 60 余篇，获省部级科研奖励 2 项。出版《超声振动复合能场加工技术研究》等专著 2 部。

英文：Yan Wang , male, a joint Ph.D. from Tianjin University and Boston University in mechanical engineering, Associate professor, Ph.D. supervisor at Tianjin University of Science and Technology. Research and teaching areas include the development of special equipment for aerospace, precision and non-traditional processing techniques and detection technologies for aerospace materials. He has led 7 aerospace projects and published over 60 SCI/EI papers in journals such as "International Journal of Machine Tools & Manufacture", "Journal of Materials Processing Technology", "Journal of Manufacturing Processes", and "Aerospace Manufacturing Technology". He has also received 2 provincial and ministerial-level scientific research awards. He has authored 2 monographs, including "Research on Ultrasonic Vibration Composite Energy Field Processing Technology".