

WAAE 2026 Track 7 Description

Basic Information:

专栏题目 Title	中文：航空航天数字孪生与智能决策 英文：Digital Twins and Intelligent Decision-Making in Aerospace Engineering
专栏介绍和征稿主题 Introduction and topics	
<p>中文：数字孪生与人工智能的深度融合，正推动航空航天系统从被动镜像向自主智能决策跨越。本专栏聚焦高保真建模、实时感知、智能控制与预测性维护等关键方向，旨在展示面向飞行器、发动机、在轨服务及集群协同的前沿研究成果。</p> <p>征稿主题（包括但不限于）：</p> <ul style="list-style-type: none">➤ 数字孪生高保真建模与降阶方法➤ AI驱动的状态监测与故障诊断➤ 深度强化学习与自主飞行控制➤ 预测性维护与全生命周期管理➤ 生成式AI辅助仿真与决策解释➤ 典型航空航天系统应用验证 <p>英文：The deep integration of digital twins and artificial intelligence is transforming aerospace systems from passive mirroring to autonomous intelligent decision-making. This column focuses on high-fidelity modeling, real-time perception, intelligent control, and predictive maintenance, showcasing cutting-edge research for aircraft, engines, on-orbit services, and swarms.</p> <p>Call for Topics:</p> <ul style="list-style-type: none">➤ High-fidelity and reduced-order modeling of digital twins➤ AI-driven condition monitoring and fault diagnosis➤ Deep reinforcement learning for autonomous flight control➤ Predictive maintenance and lifecycle management➤ Generative AI-assisted simulation and explainable decisions➤ Validation in representative aerospace systems	

Track Chair(s):

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Organizer's Brief Biography

中文：殷之平，西北工业大学民航学院副教授，硕士生导师，博士。主要研究方向：飞行器结构疲劳与损伤容限分析技术、飞行器结构健康诊断与寿命预测、飞行器强度试验技术、疲劳与损伤容限专业应用程序开发。

英文：Yin Zhiping, Associate Professor at the School of Civil Aviation, Northwestern Polytechnical University, Master's Supervisor, Ph.D. Main research directions: aircraft structural fatigue and damage tolerance analysis technology, aircraft structural health diagnosis and life prediction, aircraft strength testing technology, and development of specialized application programs for fatigue and damage tolerance.

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Organizer's Brief Biography

中文：谢伟，西北工业大学航空学院副教授，硕士生导师。2002年、2005年及2008年在西北工业大学分别获得学士、硕士及博士学位。2014年4月-2015年4月在美国辛辛那提大学进行访学。研究方向：计算固体力学；航空结构完整性分析；先进复合材料结构的力学行为。发表学术论文50篇。

英文：Wei Xie is currently an Associate Professor and Master Supervisor at the School of Aeronautics, Northwestern Polytechnical University. He received his B.S., M.S., and Ph.D. degrees from Northwestern Polytechnical University in 2002, 2005, and 2008, respectively. From April 2014 to April 2015, he was a Visiting Scholar at the University of Cincinnati, USA. His research interests include computational solid mechanics, aircraft structural integrity analysis, and the mechanical behavior of advanced composite structures. He has published 50 academic papers.