

ADVANCED STRUCTURAL MODELLING FOR THE AEROSPACE INDUSTRY

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ABSTRACT

The aerospace field presents unique and complex engineering challenges, driven by stringent safety requirements, extreme environmental conditions, and the relentless push for higher efficiency and sustainability. These demands necessitate exceptional precision, reliability, and innovation in structural modeling to address the challenges of extreme operating environments and ever-increasing performance expectations. This mini-symposium gathers leading researchers, engineers, and industry experts to discuss the latest advancements in structural modeling methods and their applications in aerospace, with a particular focus on solutions and innovations from a structural perspective.

Key topics will include structural integrity under high stress and temperature fluctuations, advanced propulsion systems, lightweight materials, and cutting-edge computational techniques, including multi-scale modeling for aerospace composites. Additionally, the symposium will explore the integration of emerging technologies such as additive manufacturing, autonomous systems, and artificial intelligence in design and testing processes. This event will provide insights into the essential role of analytical and numerical approaches in addressing critical aerospace challenges, foster cross-disciplinary collaboration, and inspire innovative solutions that meet the evolving demands of aerospace engineering.