

Reducing Noise Emission in Aerospace Applications

Introduction:

Noise pollution has emerged as an increasing environmental issue in the twenty-first century, with the potential to harm both the psychological and physical health of a large population. One source of noise emission is the air transportation business, as noises from aircraft can easily exceed 100dB and travel longer distances; others, such as helicopters and UAVs, must also adhere to tight flight guidelines owing to the same issue. Although massive research efforts have been devoted in recent decades to reducing noise emission in aerospace applications, where methods include, but are not limited to, composite materials, unique structure design, and operation optimizations, this technical issue remains tremendous and challenging to be solved. For the purpose of this project, the student will be encouraged to choose a case study related to this topic, conduct a thorough literature analysis, and propose a solution to effectively reduce noise emissions in the chosen application.

Objectives:

The primary objective of this project is to reduce noise emission in aerospace applications through the development of innovative noise reduction technologies. The goal is to develop a solution that significantly reduces aircraft noise levels while also maintaining the performance and efficiency of the aircraft.