Identifiant de la contribution : **308** Type : **non spécifié**

”JJCAB2#6 - Modeling and optimization of acoustic metamaterials for cabin noise treatment”

lundi 10 juillet 2023 10:35 (5)

The objective of our research is to develop an acoustic fairing for UAVs and other VTOL aircraft by using an acoustic metamaterials developed at Capgemini, which have been tested for noise insulation in new workspaces. These metamaterials will be used to create specific liners for the fairings and designed with a porous matrix that is printed using the Fused Deposition Modeling (FDM) method. The matrix includes resonant elements strategically placed to achieve the desired acoustic properties Various printing configurations will be explored, including different patterns and fill densities, to optimize performance within the targeted frequency ranges. Tests will be conducted to compare the noise emissions of each acoustic fairing configuration. This will allow us to assess the effectiveness of the different metamaterial designs and identify the configurations that provide the best noise reduction. By using these advanced materials and conducting rigorous testing, we aim to develop an effective fairing solution that can significantly mitigate noise emissions for UAVs and VTOL aircraft.

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Classification par session : JJCAB2