

## Experimental Investigation on Noise from Rod-Airfoil with Leading Edge Serrations

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**Abstract :** The present work is an experimental investigation of adapting a passive treatment leading edge serrations over a rod-airfoil flow-induced noise generation. The leading edge serrations are bio-inspired from a barn-owl silent flight. The rod-airfoil configuration is a benchmark configuration taken to investigate airfoil-turbulence interaction noise (ATIN). Location of serrations placed and the wideness of serrations are the two parameters taken in this study. The ATIN is reduced up to 3.5 dB for a wide leading serrations case. A correlation is found between the wideness of serrations and the noise reduction mechanism of the airfoil.

**Keywords :** aerodynamic noise, leading edge serrations, rod-airfoil, experiment

**Conference Title :** ICFMAE 2018 : International Conference on Fluid Mechanics and Aerodynamic Engineering

**Conference Location :** Amsterdam, Netherlands

**Conference Dates :** February 12-13, 2018