

Master thesis

Multi-channel Wind Noise Analysis

Description

Wind-induced noise presents a specific acoustic signature in microphone recordings. Recent works suggest that defined spectro-spatial characteristics strongly depend on the free-field stream speed and direction. In this project, you will identify linear or non-linear models that express the relation between acoustic features extracted from the noise field and the *in-situ* wind speed and direction.

The work consists of

- a) Getting familiar with the system used in our lab to collect and label wind noise
- b) Perform an extensive analysis on the collected data
- c) Identifying relevant features and their relation with the wind speed/direction

Related topics

- Spatial Audio Processing
- Model identification

Prerequisites

- Programming in MATLAB/Python
- Solid math background
- Fluid-dynamics background (optional)
- Recommended courses: Speech and Audio Signal Processing, Speech Enhancement, Statistical Signal Processing

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