

## **Study on noise reduction for drone polymeric propellers**

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### **Abstract.**

Drone noise remains one of the most important aspects hindering their use in urban areas, characterizing and minimizing it is the focus of this study. Although a preliminary Computational Fluid Dynamics study has been conducted, the bulk of the work presented is experimental. To that effect, a variation of the baseline propeller was put forth and tested using a tailored workbench inside an anechoic chamber. The acoustic spectra comparison as well as the Overall Sound Pressure Level, show that the concept does offer some improvement, however more development work will be necessary in order to mature it into a higher technology readiness level. It is envisioned that this work will pave the way to less intrusive yet efficient propellers for use in drone-scale applications for densely populated areas where noise pollution is a concern.