

## **ACOUSTICS2008/2550**

### **Low frequency airplane noise measurement**

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Low frequency airplane noise during take-off and landing periods is a serious environment hazard. Also, the low frequencies originating from the airplanes could potentially be an easy target for detection. Since there is very little attenuation at the low frequencies, the low frequency sound can propagate to relatively long distances. Several field experiments were conducted to identify the low frequency signal and noise content from many different airplanes. What is different in our experiment from most other noise experiments is that we will identify the very low frequency content of the airplane noise spectrum, from 200 Hz down to the infrasound range, 0.02 Hz. During the experiments, two infrasound microphone systems were used: Chaparral 50, which has a bandwidth from 0.02 to 50 Hz, and Chaparral 2.5, which has a bandwidth from 0.1 to 200 Hz. In addition to the infrasound systems, a recording system with B&K microphones was also used. The data were collected before, during, and after landing and take-off periods. The low frequency signal and noise content during each of those periods will be analyzed and reported on.