

ANCORA

**ANotec-COmoti Rotorcraft Acoustics initiative
for preliminary acoustic flight tests
for the tuning of simplified rotorcraft noise models**

Final report

Figures

Nico van Oosten (Anotec)

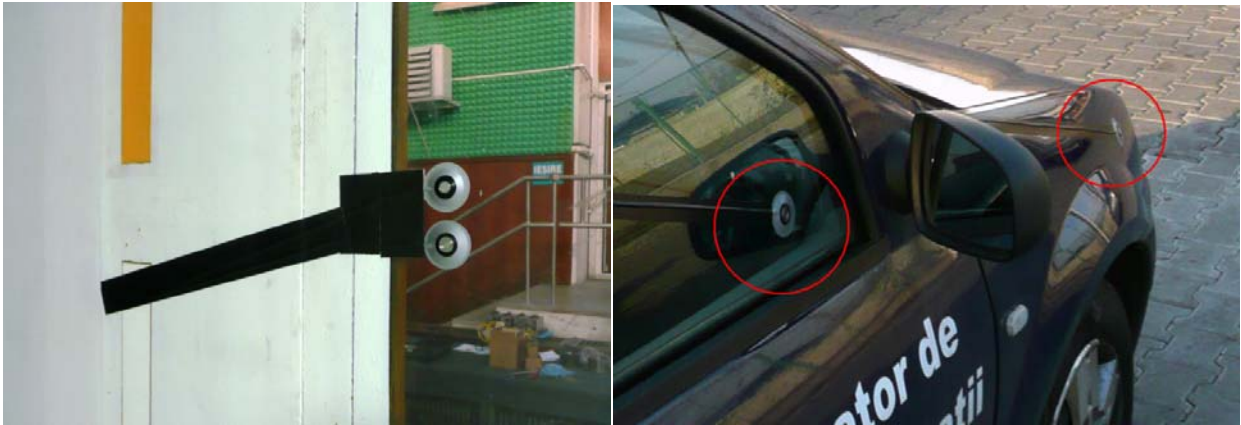


Figure 1: Validation tests of the surface microphones in a wind-tunnel and on a car

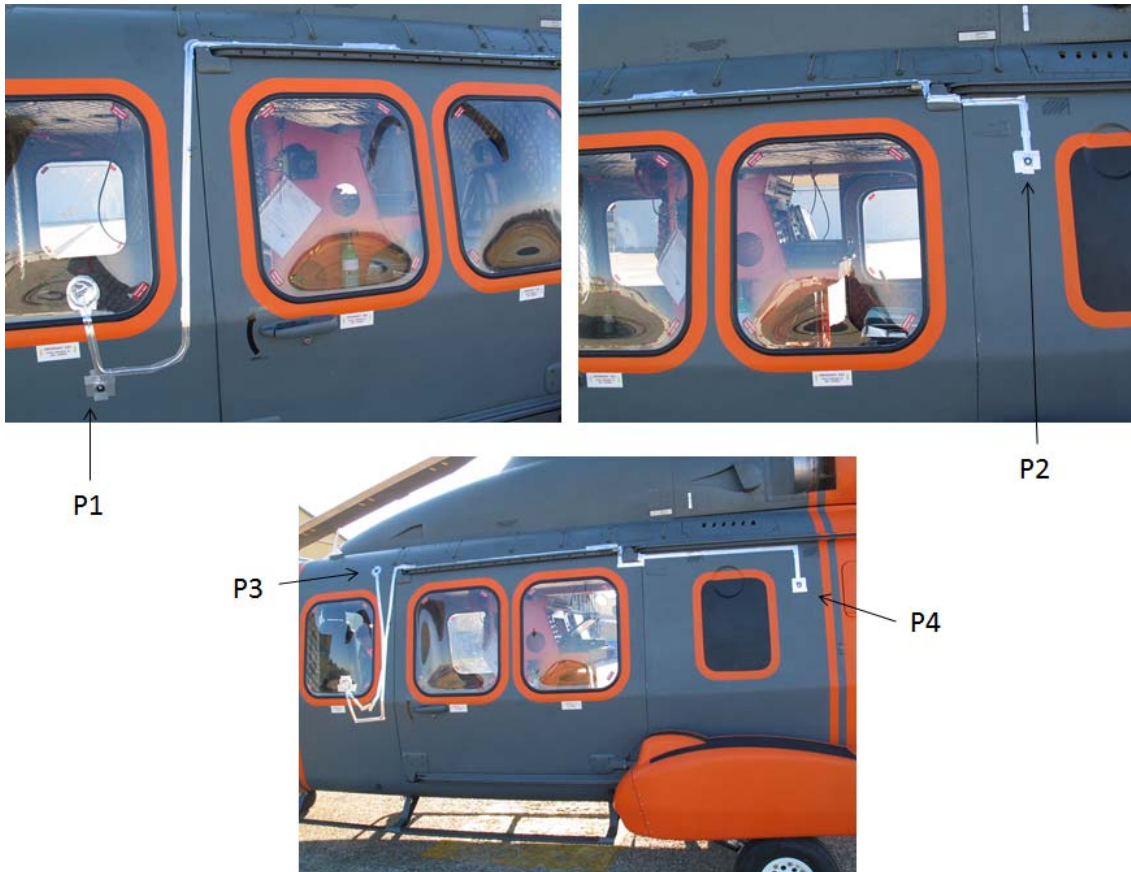


Figure 2: Positions of surface microphones

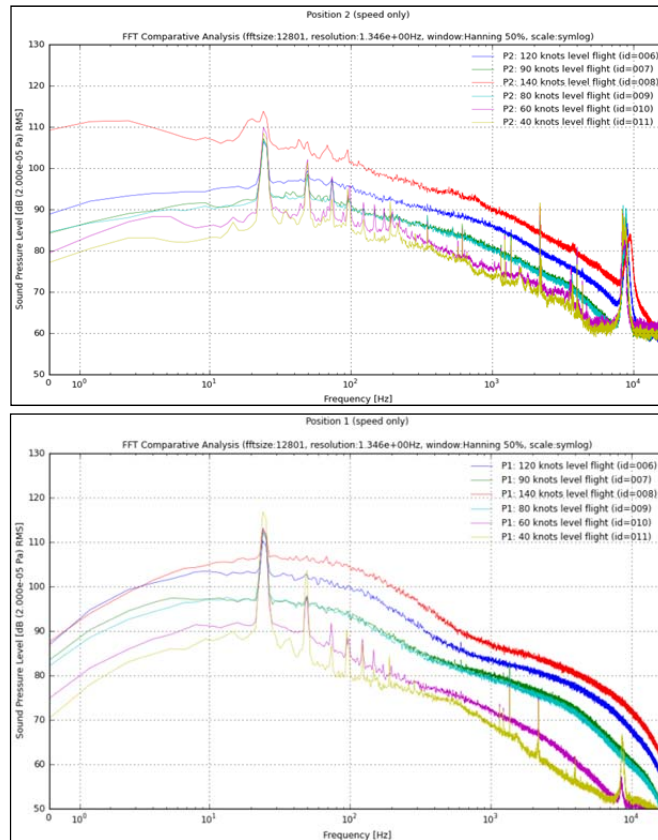


Figure 3: Noise signal at P1 (top) and P2 (bottom) for various flight speeds

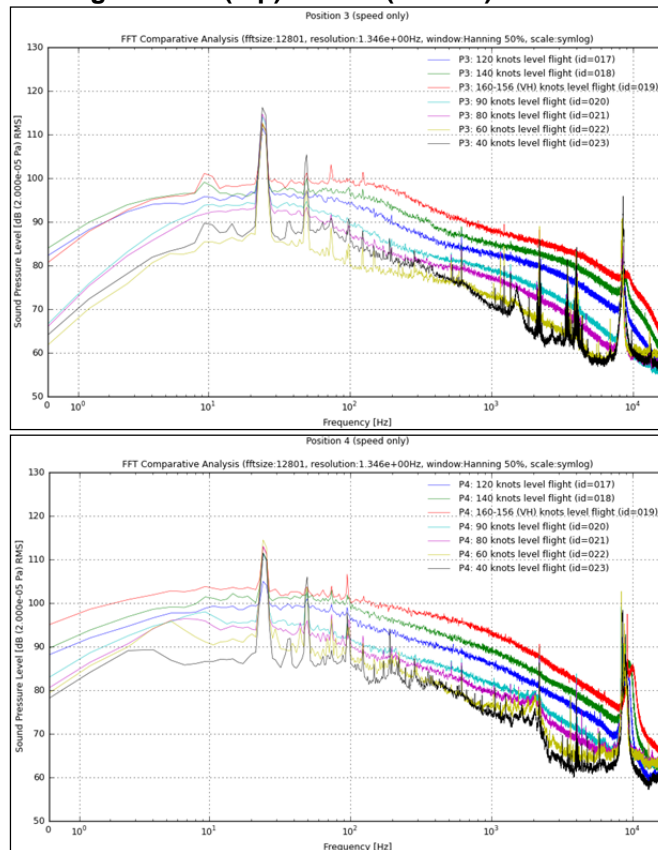


Figure 4: Noise signal at P3 (top) and P4 (bottom) for various flight speeds

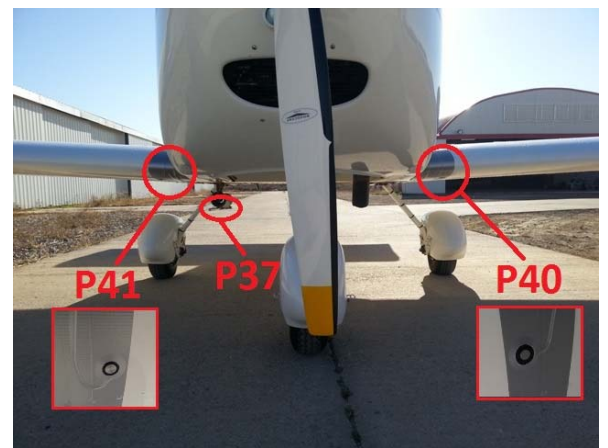
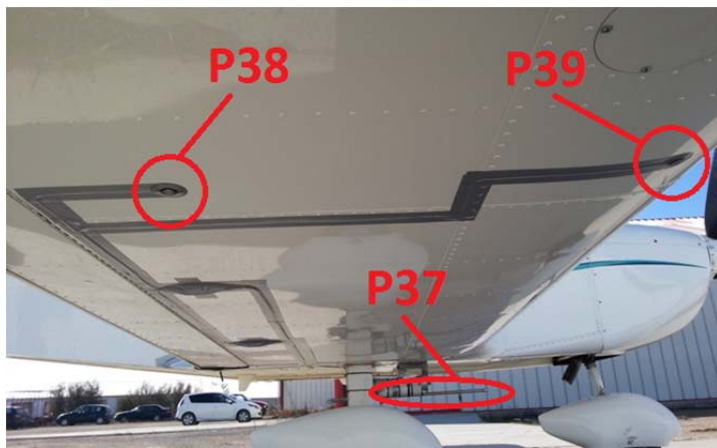
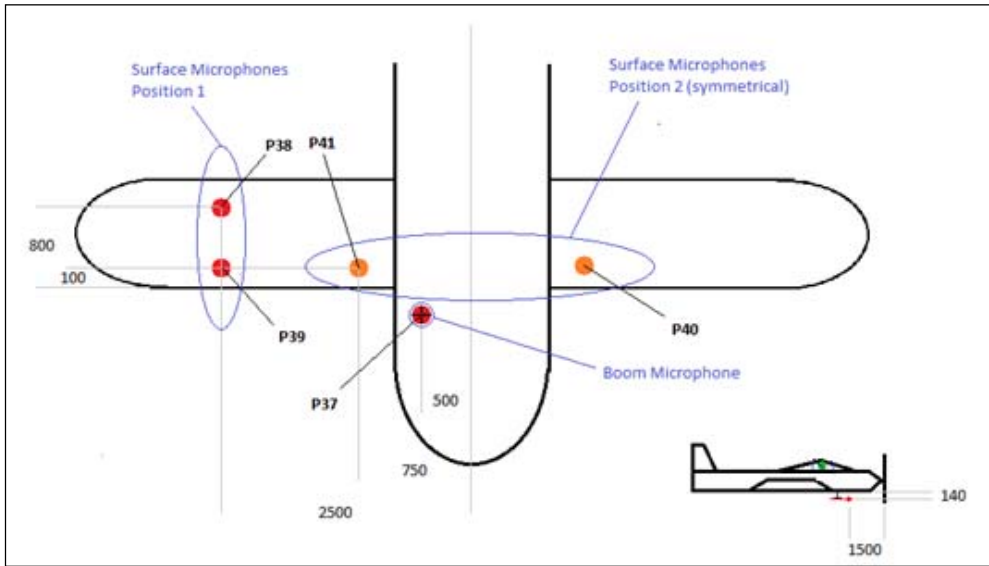


Figure 5: Details of the microphone positions

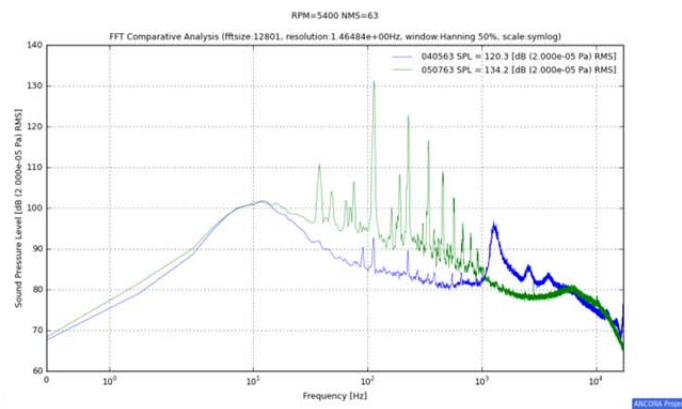
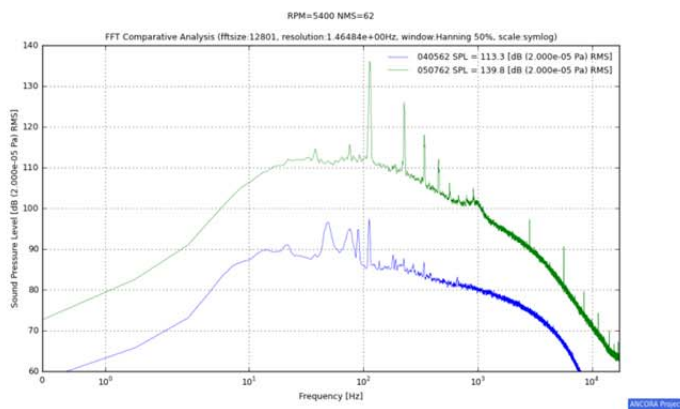
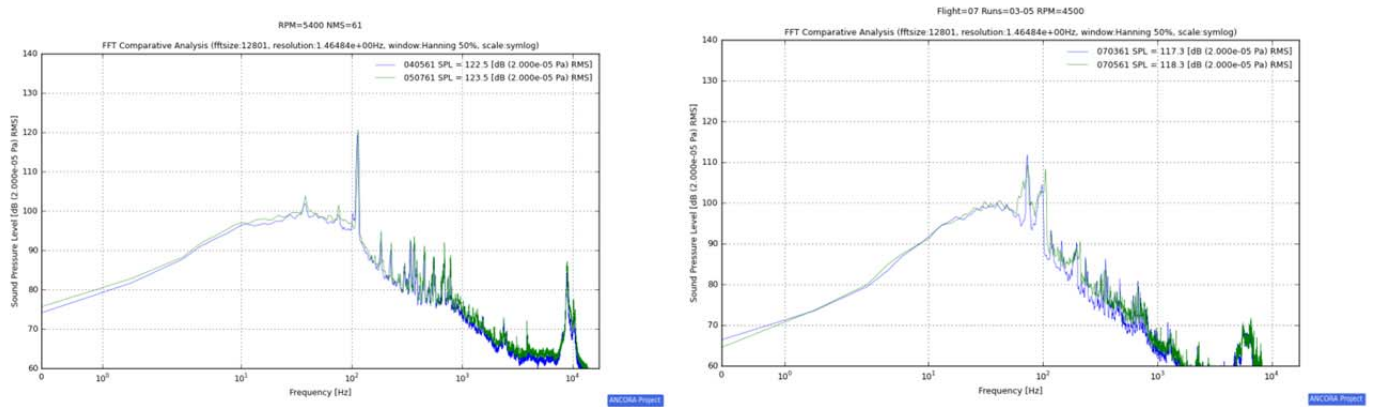


Figure 6: Comparison of noise signals at positions P38-P40 (left) and p39-P41 (right)



Figure 7: Boom microphone installation



**Figure 8: Noise signal from boom microphone for 2 runs at same flight conditions
 High speed level flight (left) and Approach (right)**

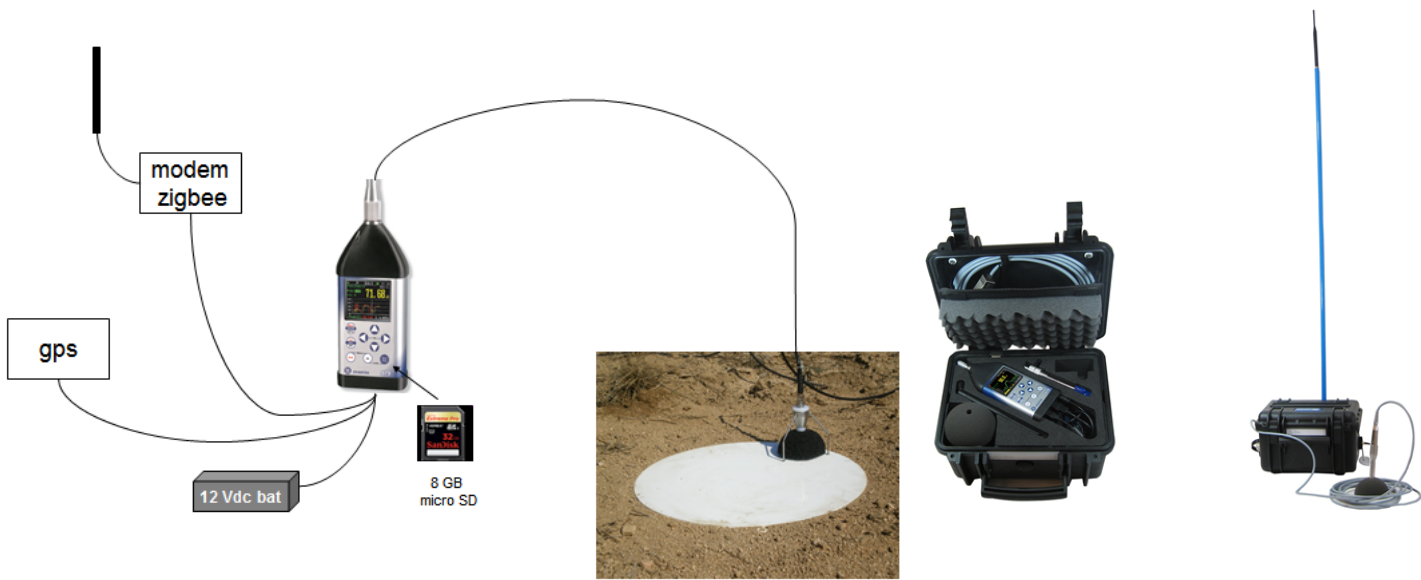


Figure 9: Svantek noise measurement station

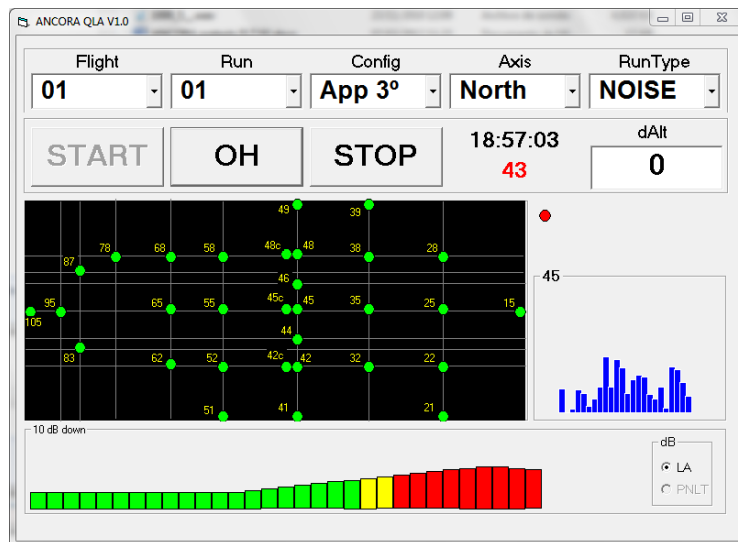


Figure 10: Central control display in CGS



Figure 11: NMS tests during UAV flight test campaign



Figure 12: Simulated flight tests with a van



Figure 13: System test at Granada airport



Figure 14: Flight tests at Trebujena airfield

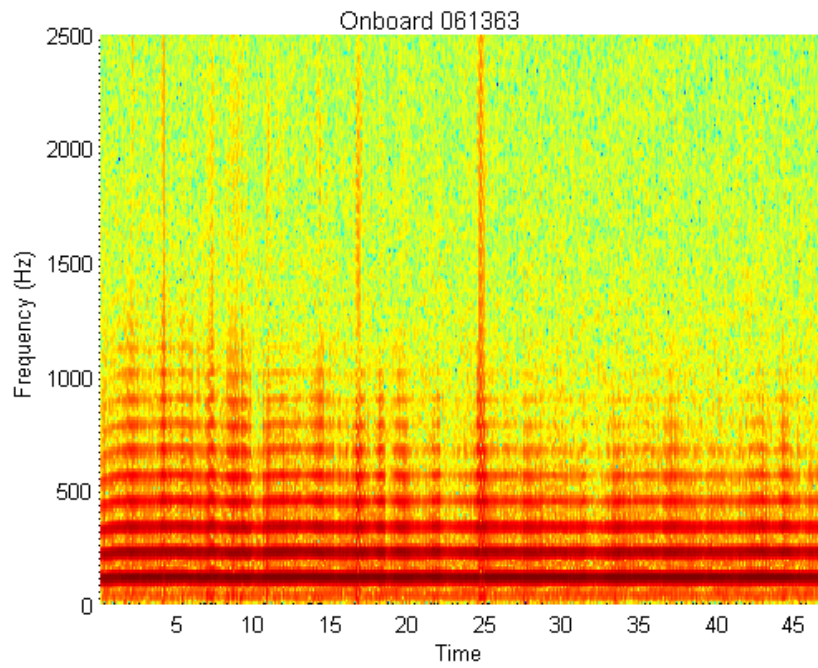


Figure 15 Spectrogram of signal measured on-board

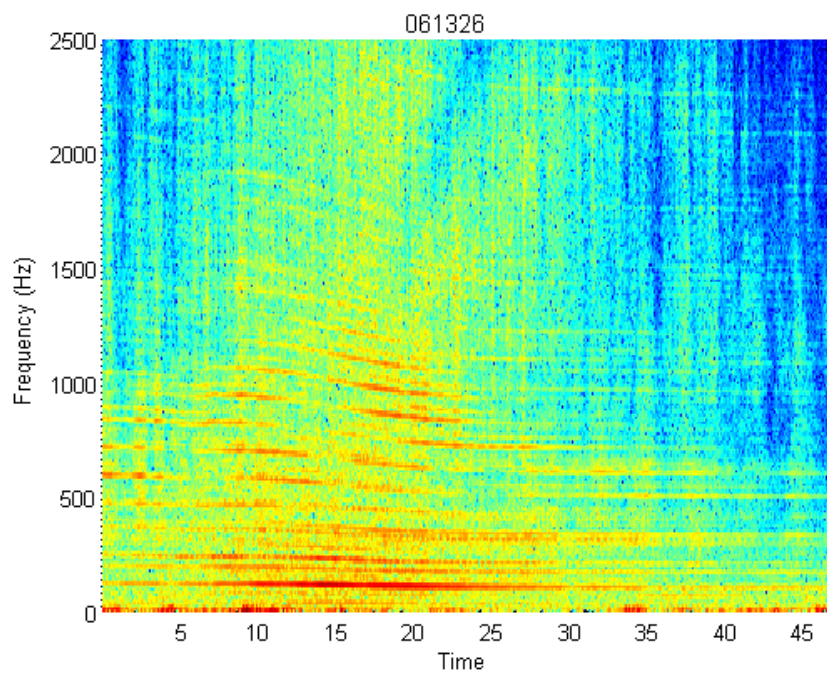


Figure 16 Spectrogram of signal measured on ground

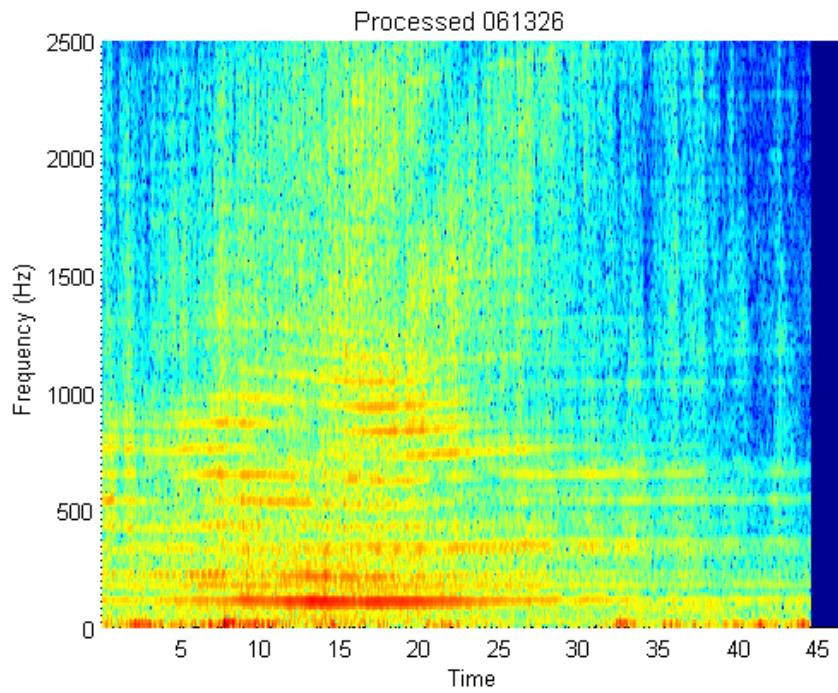


Figure 17 Spectrogram of processed ground signal (Flight 06 Run 13 NMS 26)

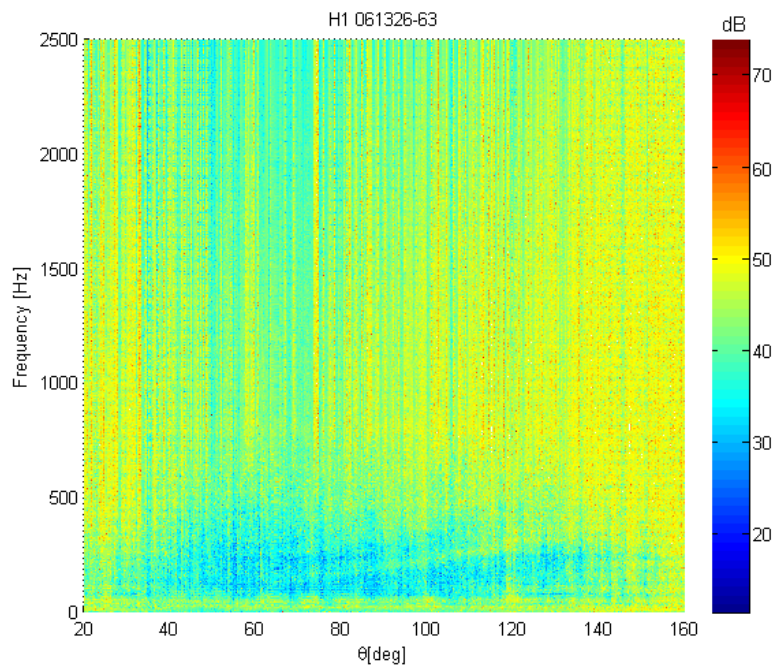


Figure 18 Frequency response of the transfer function H1 for a single microphone pair

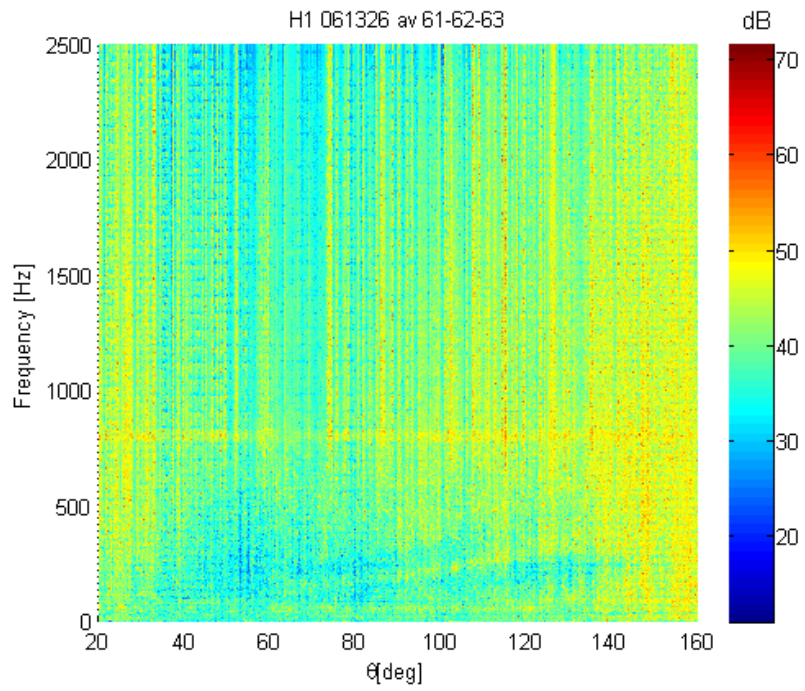


Figure 19 Frequency response of the transfer function H1 for 3 microphone pairs averaged