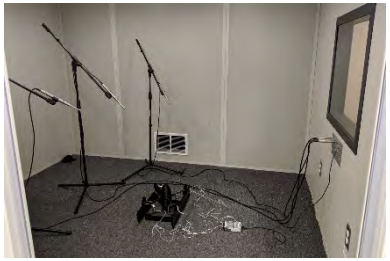
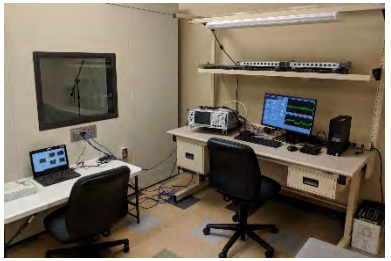
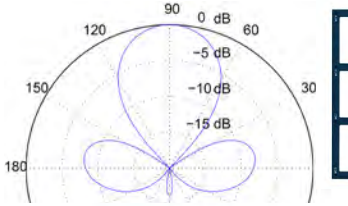
UAS Acoustic Measurement, Characterization, and Signal Processing

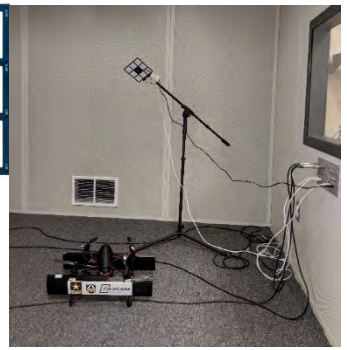
Embedded Sensing and Processing Systems Lab, Department of Electrical Engineering

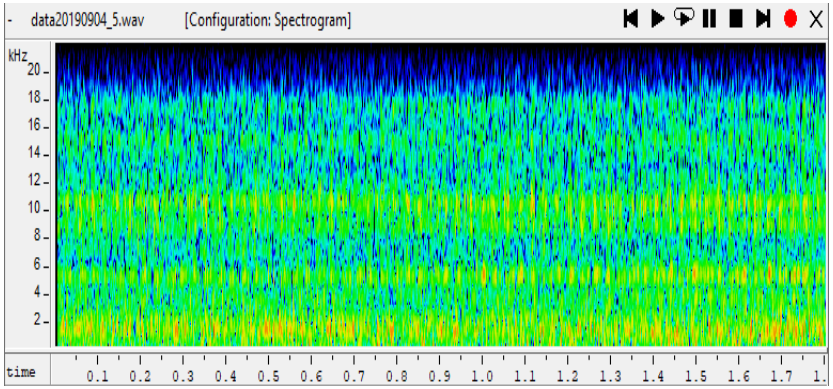
- **Measurement and characterization of UAS acoustic noise**
  - Measurement microphones, 16-microphone array, 64-microphone array, audio analyzer, acoustic chamber.
  - Measurement and analysis of acoustic noise of rotors, propellers, and overall UAS system.
- **Microphone array beamforming for real-time UAS detection and localization**
  - Microphone array system and beamforming algorithms for high fidelity acoustic measurements
  - Signal processing and machine learning algorithms for acoustic-based real-time UAS detection and localization

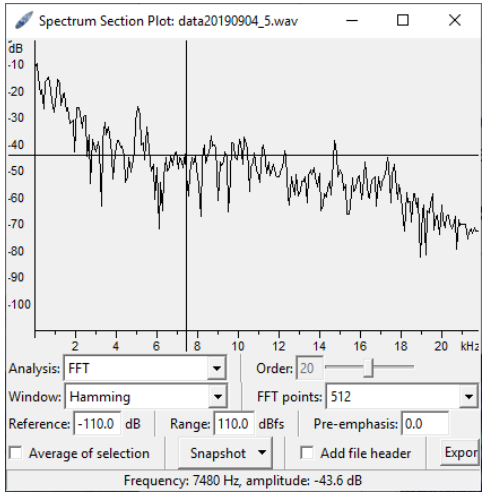


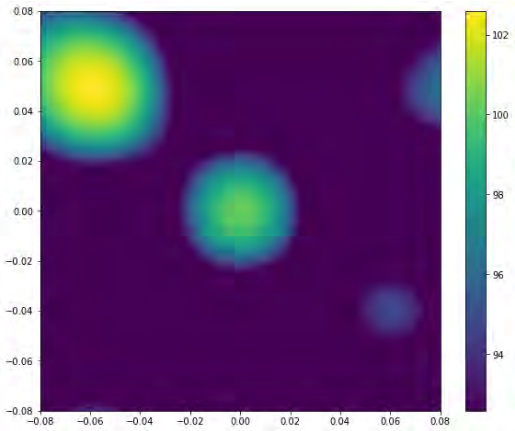












Signal power and spectrogram of the rotor acoustic measurement data.