

## Secure Command and Control Link with Interference Mitigation

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### Purpose

- This research on Secure Command and Control Link with Interference Mitigation will test interference cancellation and mitigation techniques to establish secure communication between unmanned aircraft and the control station

### Background

- The lost link and loss of control of an aircraft is a significant risk to aviation safety. RTCA Special Committee (SC)-228 UAS Working Group 2 has the primary goal of designing robust, reliable, and effective command and control links

### Projected Benefit of Research

- This research will recommend efficient and effective mitigations against all types of jamming in the evaluated waveforms and will inform SC-228 Working Group 2

### Research Approach

- Implement transceivers for UAS communications
- Evaluate relevant interference/jamming scenarios
- Develop robust architectures to suppress different types of jammers in a wide variety of settings. Adaptive channel coding will be combined with spread spectrum techniques to realize large coding gain and multi-user interference/jamming mitigation

### Research Partners

- The FAA's Center of Excellence for UAS Research, Alliance for System Safety of UAS through Research Excellence (ASSURE): Ohio State University

### Status

- Project kick-off meeting occurred October 2016
- Started test and evaluation of security schemes for SC-228 Phase 1 to be completed November 2017