

Quantum Cooperative Airspace Traffic Simulation (Q-CATS)

Problem Addressed

- **Airspace Gridlock:** by 2035 increased UAS/AAM operations will crumble current traffic deconfliction approaches.
- Need for scalable, real-time traffic deconfliction simulator for testing various deconfliction strategies.

Technical Landscape

- **Current Simulations** use simple heuristics that offer sub-optimal traffic deconfliction and poor scalability.

Objectives

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Develop QUBO algorithms to leverage quantum annealing.



Enhance simulation by implementing agent-based-modeling pipeline and ensuring USS interoperability.



Distribute Q-CATS to operational stakeholders.

