

Cooperative Aircraft Trajectories Planning

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People matter, results count.

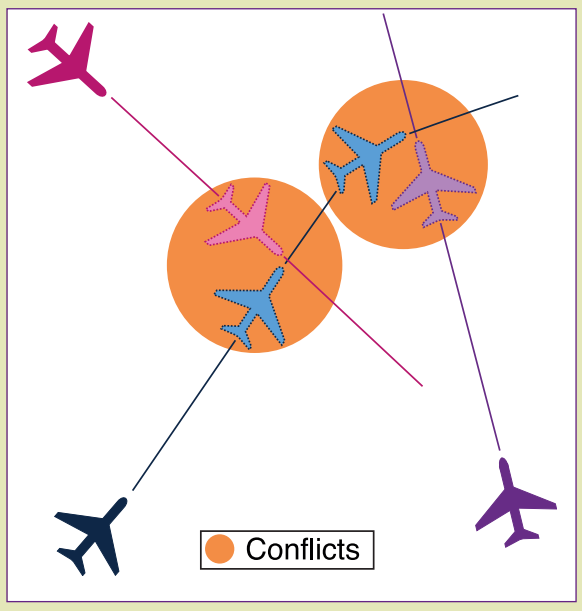
Cooperative Aircraft Trajectory Planning

Multi-agent system

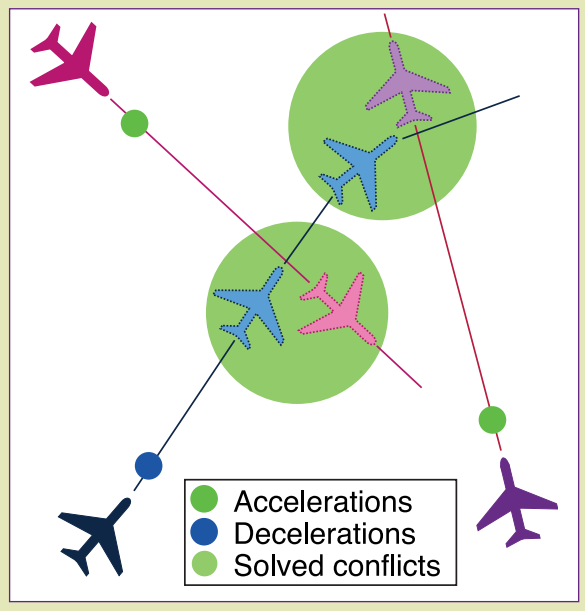
- Resilient, fast and scalable method for problem solving
- Composed of agents (aircraft) cooperating to elaborate their trajectories
- Decisions are taken **by each aircraft**, based on knowledge of its **local environment**

Conflict avoidance by speed regulation

- Aircraft sends messages containing their estimated trajectories
- Each aircraft selects optimal speed changes based on this shared knowledge
- Speeds are selected within [-6%, +3%] of its optimal speed



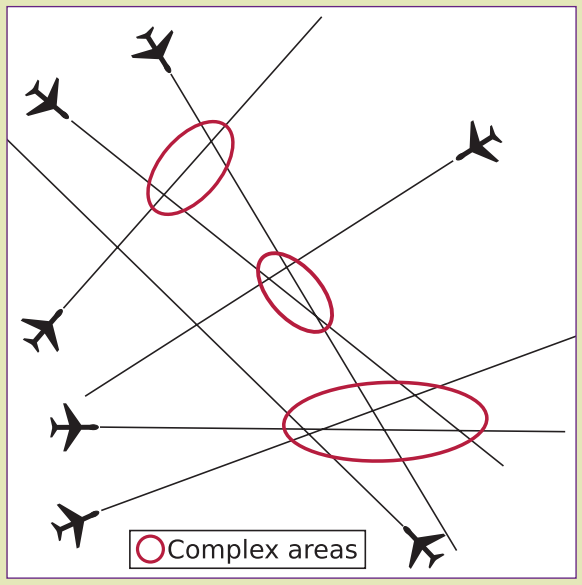
Without regulation, conflicts occur



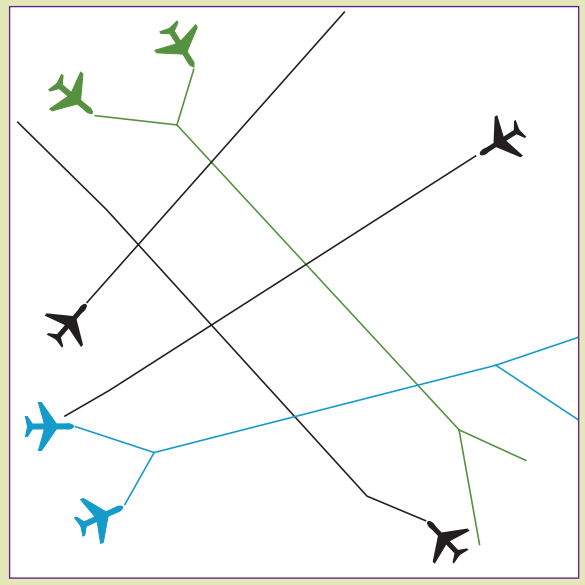
With speed regulation, conflicts are solved

Macro-structuration of air traffic

- The system reduces traffic complexity by structuring trajectories into flows
- A local network of routes is generated **on demand**



Unstructured traffic



Structured traffic

Contacts

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