Cooperative Aircraft Trajectories Planning
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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

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