Cooperative air traffic structuring
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Cooperative Air Traffic Structuring

Multi-Agent System

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

Conflict Avoidance by Speed Regulation

• Aircraft send 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

Macro-Structuring of Air Traffic

• The system reduces traffic complexity by structuring trajectories into flows
• The traffic complexity is monitored in real time
• The route network is dynamically adapted to fit the traffic complexity

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