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Optimal computation of emergency trajectories for airliners

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SINA/OPTIM

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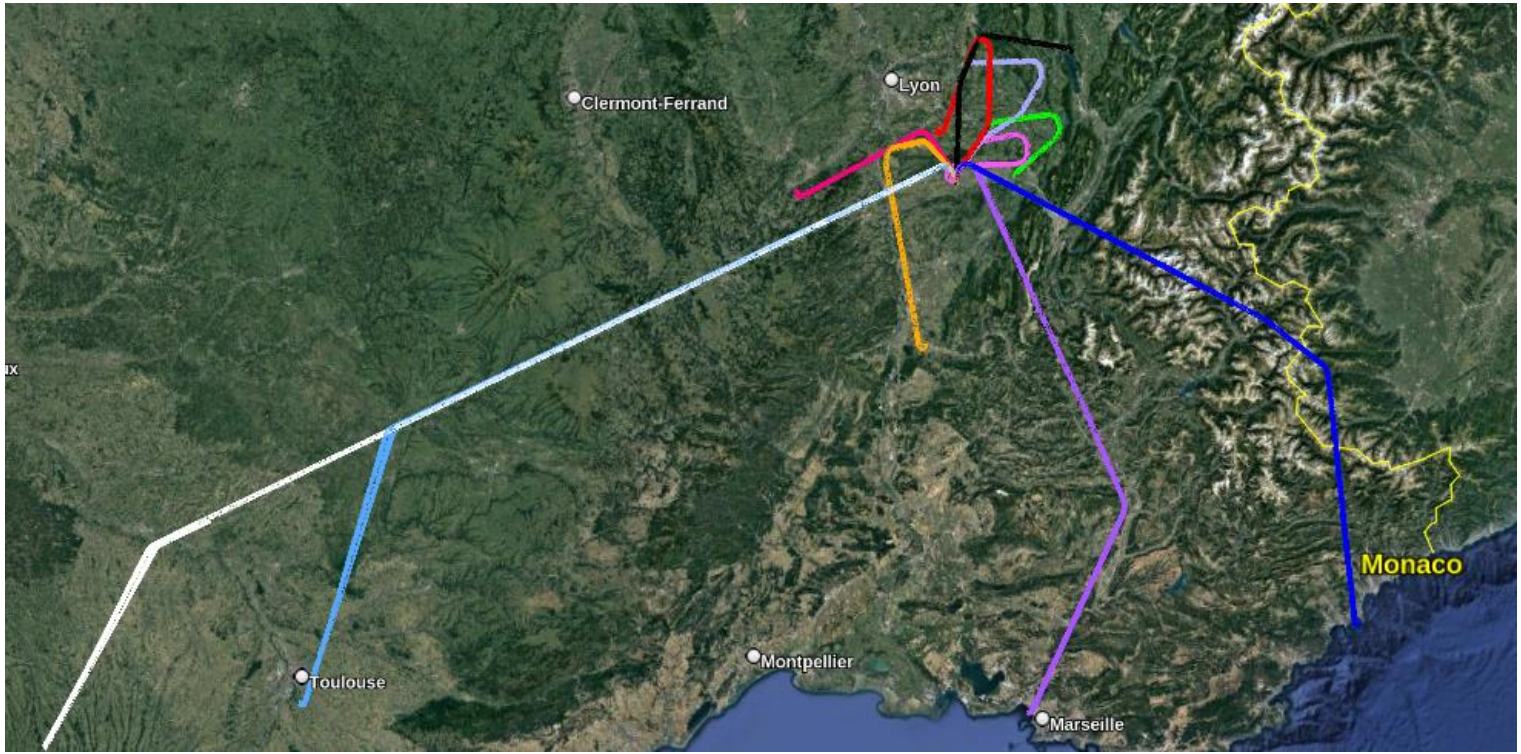
Context and Issues

Computing time

Diversity of emergencies

- Air transat 236 : Fuel leak resulting in loss of engine power
- British Airways 709 : Cabin fire
- Alrosa 514 : Loss of electrical power
- Air France 066 : Explosion of an engine

Résults


Clermont-Ferrand
Lyon
Monaco
Montpellier
Toulouse
Marseille

Papers

Published :

Lucas Ligny, Andréas Guitart, Daniel Delahaye, Banavar Sridhar. Aircraft Emergency Trajectory Design: A Fast Marching Method on a Triangular Mesh. *Fourteenth USA/Europe Air Traffic Management Research and Development Seminar*, Sep 2021, New-Orleans, United States

Raúl Sáez, Homeyra Khaledian, Xavier Prats, Andréas Guitart, Daniel Delahaye, et al.. A Fast and Flexible Emergency Trajectory Generator Enhancing Emergency Geometric Planning with Aircraft Dynamics. *Fourteenth USA/Europe Air Traffic Management Research and Development Seminar (ATM2021)*, Sep 2021, New Orleans (virtual), United States

In the process of publication :

Andréas Guitart, Daniel Delahaye, Eric Feron. An Accelerated Dual Fast Marching Tree Applied to Emergency Geometric Trajectory.

Lucas Bonin, Daniel Delahaye, Andréas Guitart, Eric Feron, Xavier Prats. Optimal Path Planning for soaring flight. *CEAS EuroGNC 2022, Berlin, Germany.*

Alexis Brun, Andréas Guitart, Daniel Delahaye, Eric Feron. Airline Planning Recovery Following Airport Closure. *International Conference on Research in Air Transportation (ICRAT) 2022,* Tampa, Florida, United States

Lucas Ligny, Andréas Guitart, Daniel Delahaye. Aircraft Emergency Trajectory Design: A Fast Marching Method on a Tetrahedral Mesh. *Journal of Aerospace Information Systems.*