

Master thesis



TECHNISCHE
UNIVERSITÄT
DARMSTADT



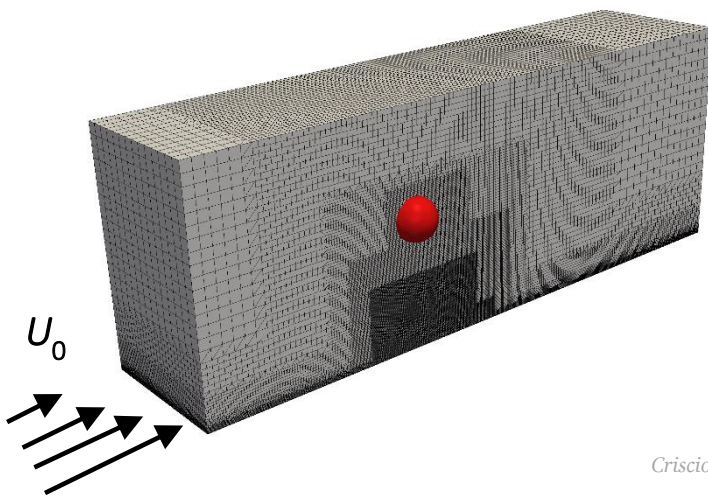
AIRBUS

“Numerical simulation of a drop impact onto a moving substrate”

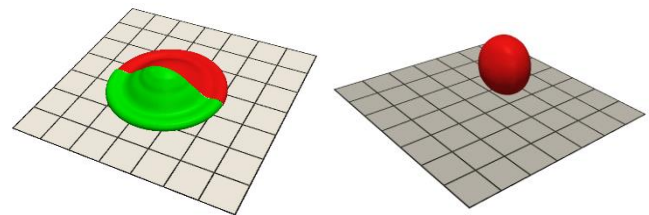
Extreme weather conditions are increasingly contributing to aircraft icing events, which pose significant safety risks. The analysis of this phenomenon has gained increased attention, particularly in the field of aviation safety.

Our new research aims to better understand the involved phenomena by analyzing moving surfaces and high relative impact velocities.

This approach will closely simulate the real-world conditions that aircraft wings experience.



The project involves simulating a single water drop impact onto a moving substrate in order to replicate existing experimental data.



Griscione (2011)

Requirements:

- High motivation and interest in numerical research
- Strong sense of responsibility and conscientiousness
- Knowledge of CFD softwares (preferably experience with OpenFOAM)

Tasks:

- Multiphase simulation of drop impact onto a moving surface
- Evaluate simulation results by comparing them with existing literature
- Validate findings against experimental data to ensure consistency

Starting time: as soon as possible

Contacts:

Reda Kamal M.Sc.; Institut für Strömungslehre und Aerodynamik (SLA)

Room: CSI|313, Peter-Grünberg-Str. 10, 64287 Darmstadt

Email: kamal@sla.tu-darmstadt.de; Telephone: [+49 6151 16-22196](tel:+4961511622196)