

July 26, 2022

Bachelor-Thesis – experimental

Experimental study of splashing in drop impacts

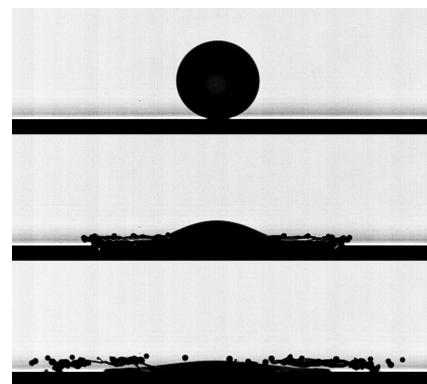
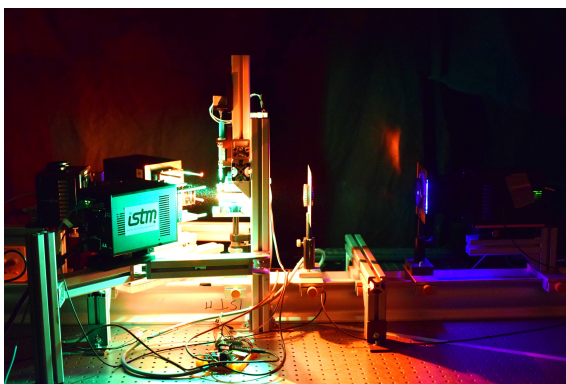
Background

The impingement of a liquid droplet on a flat or structured surface is a relevant phenomenon for various technical processes, e.g. spray cooling, spray coating, combustion and de-icing. Whilst being a simple and elementary process, drop impact behaviour is still not fully understood and therefore subject of ongoing research. In particular the exact conditions influencing whether a droplet splashes or remains on the wall in one piece are still not determined accurately and universally accepted by the research community.

Content of the Thesis

Therefore in the following thesis drop impact experiments with varying conditions should be conducted. The following parameters thereby are of particular interest: drop impact velocity, viscosity, density, surface roughness and wettability. The drop impact test rig, as well as various liquids and test surfaces are available for this purpose already at the laboratory.

- Research and familiarization with the topic
- Large scale experimental study
- Comparison of splashing conditions to literature



Requirements:

Knowledge of fluid mechanics

Beneficial Skills:

Python or Matlab

Start: immediately

Contact:

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