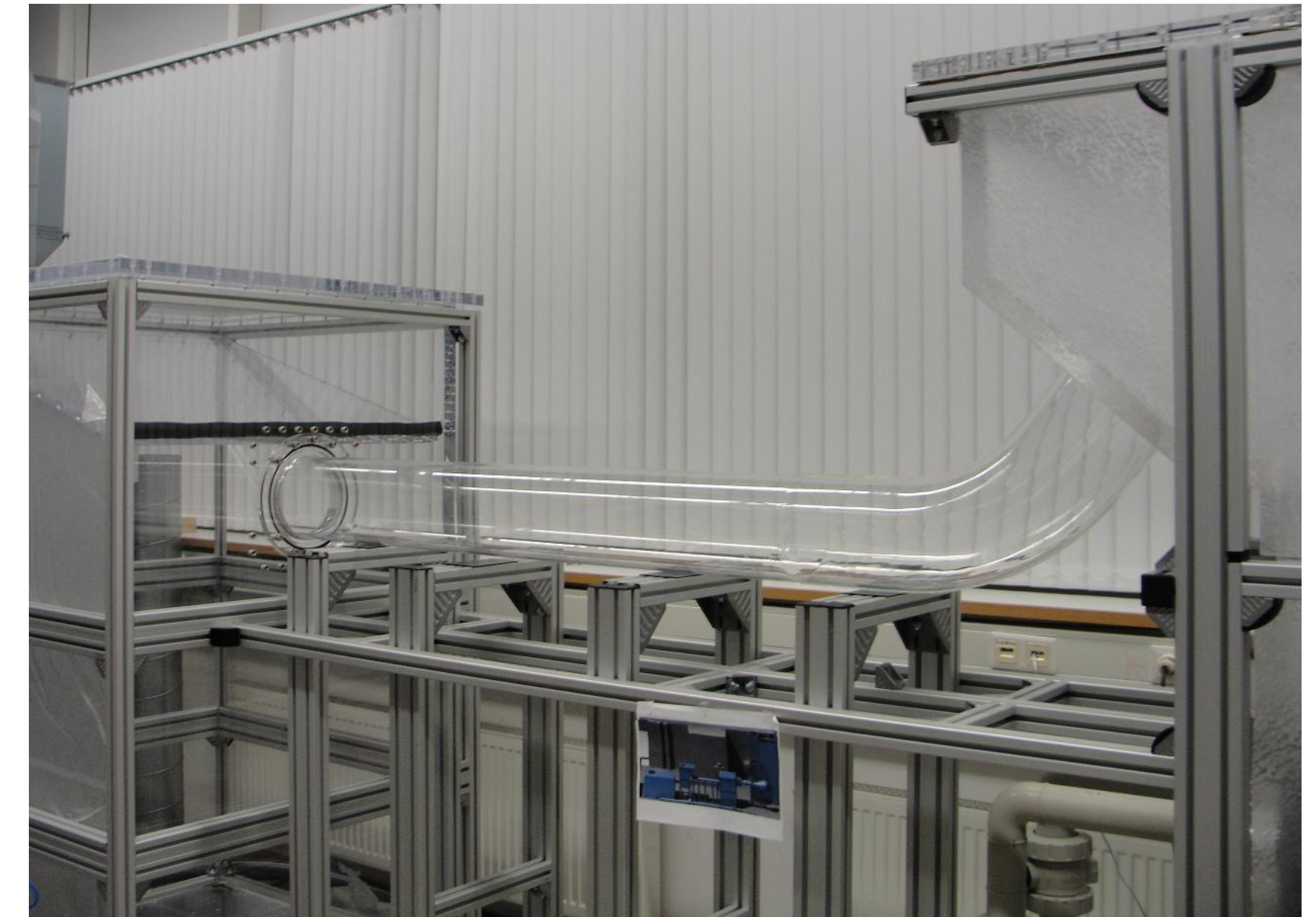
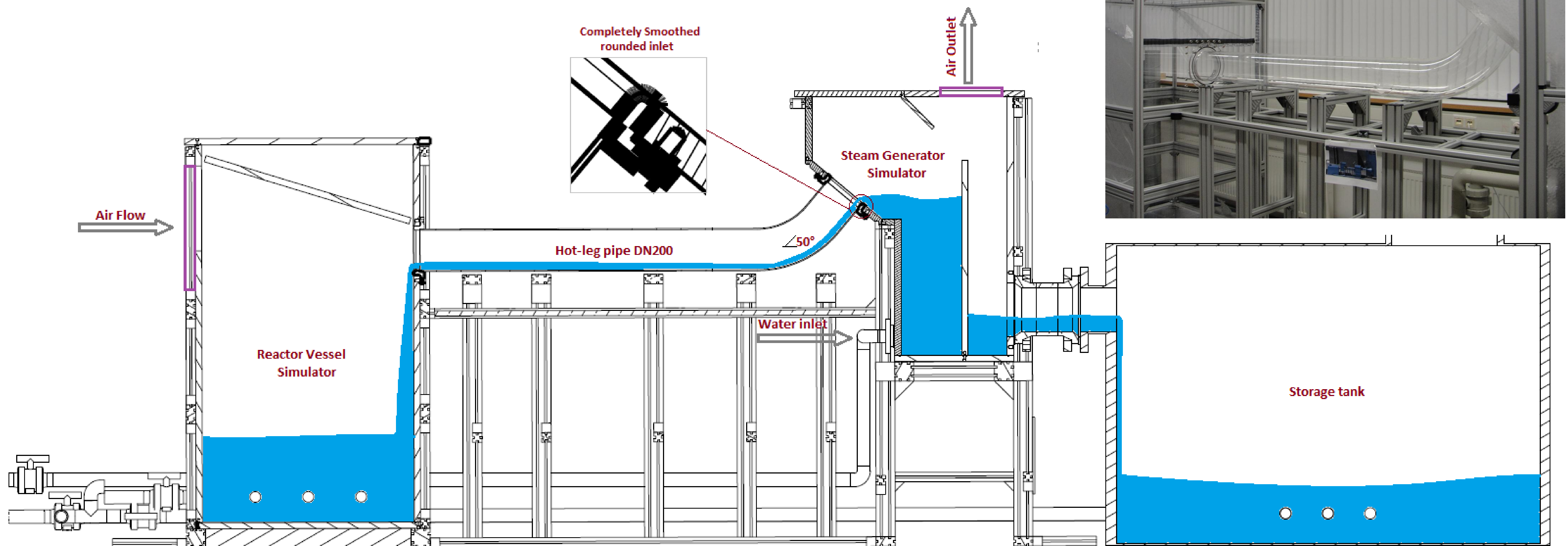




COLLIDER test facility (Counter Current flow Limitation in a Large Diameter hot-leg pipe Geometry) Overview and Preliminary results

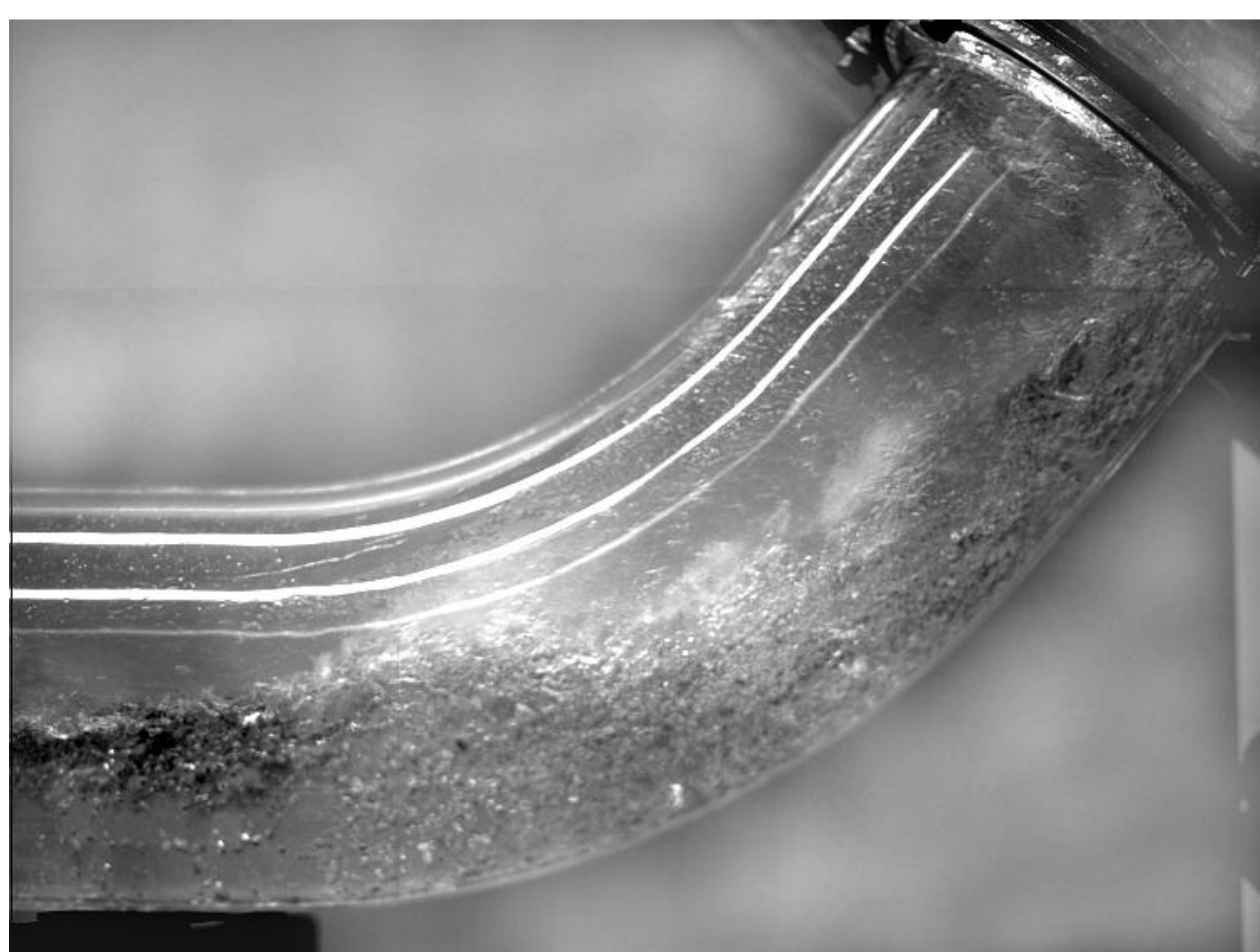
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Facility Schema

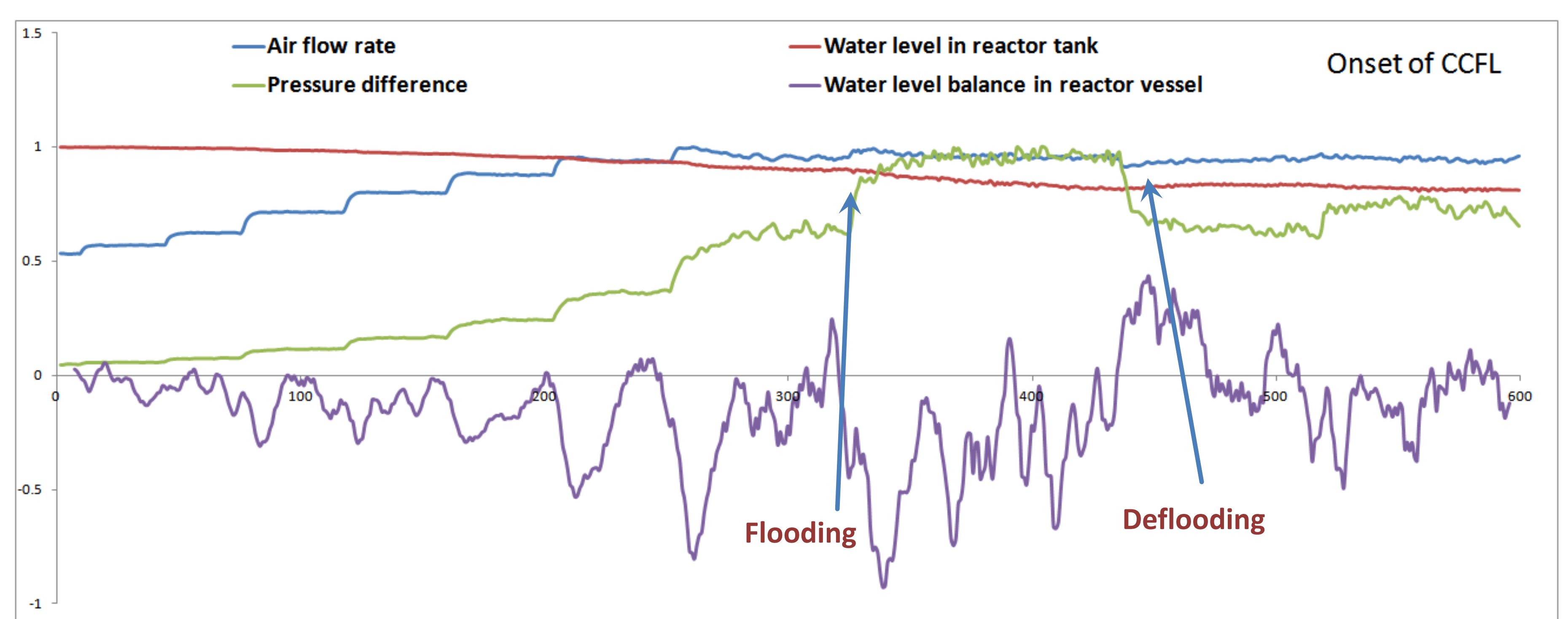


Measurements

- Temperatures, pressures, water level in reactor vessel, and air and water flow rates are controlled and measured in test section via automated data acquisition system and LabVIEW-based program.
- High-speed camera recording is used to capture surface interface for CFD validation under low pressure conditions.
- Facility will be used for investigation of momentum transfer in large diameter (200 mm) PWR 1/3 downscaled geometry with possibility to change test section for some further tests.



Raw Image at onset of CCFL near bend
(No back light is installed yet)



Onset of CCFL after gradual increase of air velocity. Sudden increase of pressure difference between reactor vessel and steam generator, and fluctuation of water level in reactor vessel is known characteristic of CCFL

• Upcoming work:

- CCFL line and good quality images for flow patterns
- Partial delivery line and deflooding data.
- CFD simulations and comparisons against experiments.

• Future work:

- Some geometrical changes and Physical properties effects can be studied.