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# 【207】Experimental and numerical methods for the fluid dynamic and acoustic characterization of heat exchanger icing

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Icing of heat exchangers is a commonly observed phenomenon. It subsequently leads to blocking of the air flow and reduced heat transfer capabilities. We focus on the experimental characterization of heat exchanger icing using transient weight measurements and image capturing and extraction techniques. We then compare these observations with numerical simulations on a small symmetric section of the heat exchanger in detail and for a full numerical setup of the whole heat exchanger used to calculate pressure drop and heat transfer capabilities. During the subsequently icing of the heat exchanger, also changes in the acoustic emissions can be observed, which are captured using an acoustic dome and an acoustic camera.

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