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Education in Meteorology and Acoustic measurement methods

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As part of training, the LIM operates a practical experiment which is equipped with acoustic devices. The goal is to demonstrate the method of acoustic velocimetry / thermometry. This method bases on travel time measurements and is commonly used in meteorology to derive wind speed and air temperature.
The test set-up is equipped with 100 kHz air ultrasonic transducers which form a single-line ultrasonic anemometer / thermometer (single-line Sonic - SLS).
During the experiment, the students are required to change the air temperature within a chamber, or to generate air flow along the path between the transmitter and receiver. In this contribution, the background of the experimental setup and sample experiments are presented.