



Interests and limits of ultrasonic anemometers and acoustic sensors in field experiments dedicated to blowing snow study

F-X. Cierco, F. Naaim-Bouvet and M. Naaim

ETNA, Cemagref, 2 rue de la papeterie, BP 76, 38402 Saint-Martin d'Hères, France
(francois-xavier.cierco@cemagref.fr)

Since 10 years, the experimental site called Col du Lac Blanc, in the French Alps, is dedicated to the study of drifting snow. During past years a numerical model, NEMO, has been developed and numerical results have been compared with field measurements. Such model requires inputs such as wind speed or snow flux in the first meter of the atmospheric boundary layer. That is why an ultrasonic anemometer and an array of 6 drifting snow acoustic sensors have been set up at Col du Lac Blanc. Nevertheless, experiments carried out in wind tunnel and at Col du Lac Blanc show that ultrasonic anemometer's signal could be modified by presence of particles and drifting snow acoustic sensors could be sensitive to particle types. The poster set out these experiments. Limits and interests of such devices are discussed. Results obtained during the winter season 2004-2005 at Col du Lac Blanc are presented.