



A test of Automatic Blowing snow Station (ABS) in the French Alps

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Blowing snow is a significant factor to estimate snow distribution in alpine, Arctic and Antarctic regions. The Snow Particle Counter (SPC) is well used for mass flux measurement of the blowing snow, however, the SPC deployment is not always possible for automatic observation under harsh conditions. Recently Automatic Blowing snow Station (ABS), which is a simpler device than the SPC, have been developed in Japan. We installed the ABS system with the SPCs at the Lac Blanc Pass in the French Alps (2700 m a.s.l.) to examine the relationship between the ABS output and snow particle mass flux.

The ABS worked well, without problems, for the entire 4-month period in the winter 2014. The ABS output was converted to mass flux using wind-dependent power function which obtained from calibration procedure in a cold wind-tunnel. The mass flux obtained from the ABS showed a good agreement with the SPC, particularly around the peak of blowing snow event. Based on tests under controlled (cold wind-tunnel) and field conditions, we conclude that the ABS is suitable for practical use.