



## **The interaction between dense snow flows and deflecting obstacles**

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Dynamic of the interaction of dense snow avalanches and obstacles such as deflecting dams remains still poorly understood. The design of protection structures in the run-out zone of avalanches is therefore very empirical. Experiments on full-scale avalanches are expensive, dangerous and highly dependent on the weather conditions. For these reasons, experiments on smaller scales are useful to study natural snow avalanches dynamic. Since the winter 2001, an experimental device has been set-up at the Lac Blanc pass, Alpe d'Huez (Bouchet, 2003) in order to characterize steady and uniform snow flows. This winter, we have designed a new system at the end of the channel, allowing us to understand the influence of a deflecting obstacle on the flowing snow. Many laboratory experiments have already been performed on dry granular flows interacting with deflecting dams. The results showed the occurrence of a stationary, oblique shock in the direction parallel to the dam (Hakonardottir, 2004) similar to hydraulic jumps. Unlike these model materials, snow has cohesion. Our aim is to study how the cohesion can balance inertial effects to form such shocks with snow.