Influence of snow characteristics on the water movement through the snow cover

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It is important to understand the water movement through the snow cover. However, the relationship between the movement of water and snow characteristics is not known well, particularly, in an unsaturated condition, since the process of water movement is so complicated.
In this study we carried out the experiment to reveal how the unsaturated hydraulic conductivity changes with the snow characteristics and compared with the van Genuchten –Mualem model that is a standard model to describe the unsaturated hydraulic conductivity of soil.
Further, the water retention curve (WRC), which shows the relationship between the volumetric water content (θv) and the suction (h), was obtained with the gravity drainage column experiments, and the effect of Black Carbon (BC) in the snow cover on WRC was examined.

Keywords: snow, water movement through snow cover, water retention curve

