Development of the Technology to Induce an Artificial Avalanche for the Wet Snow Layer

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The western slope of the Japan's central mountain ridge receives a lot of snow in winter because of the westerly blowing from the Siberian continent. The snow is often wet and brings about the severe traffic hazard in the area. It is this situation that the technology to induce an artificial avalanche is developed in this area.

The problem addressed is to induce an avalanche successfully using the explosives detonated inside the wet snow layer: a method uniquely developed in Japan.

The method described herein to achieve that goal consists of loading method of the explosives inside the snow layer and the disposition of the loading over the snow slope.

Two applications of detonating explosives in a snow layer are explained.

One is to induce an avalanche on a snow-covered slope and the other to destroy a snow cornice to reduce the risk of an avalanche occurrence in advance.

Proposed method is shown to successfully induce an avalanche over the snow slope with the snow depth up to 2.5m.

The method described herein should give the way to solve the problems of heavy wet snow in other regions.