

インフラサウンドによる雪崩監視—雪崩遠隔監視システムの構築に向けて— Monitoring snow avalanches by using infrasound with an object of establishing remote detection system of snow avalanches

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It has been demonstrated that avalanches produce strong infrasonic vibrations in air during their movement (Bedard, 1988^[1], Hejda, 1995^[2]). These infrasonic vibrations propagate great distances and can follow the natural relief. This fact shows that it is possible to monitor remotely the snow avalanche by using infrasound detection system.

We aim to establishing remote detection system of snow avalanches. In order to study the feature of the signal associated with snow avalanches, as a first step, we carried out trial infrasound observation simultaneously with the video monitoring and the meteorological observation at mountainous region in Niigata Prefecture from January to April 2013. During the trial observation, some infrasound signals generated by snow avalanches were recorded. We analyzed these data and attempted to extract features from infrasound signals.

[References]

[1] Bedard, A. J. et al. 1988. On the feasibility and value of detecting and characterizing avalanches remotely by monitoring radiated sub-audible atmospheric sound at long distances. Proc. A Multidisciplinary Approach to Snow Engineering, Santa Barbara, CA.

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