

Acquisition of detailed topographic data for active volcano using UAV LiDAR

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In Mt. Hakone, an active volcano, volcanic landslides have occurred in the Owakudani and Sounzan areas in the past, and countermeasures have been taken. However, due to the influence of volcanic activity, it is difficult to detail survey.

Therefore, in order to provide basic data for the landslide prevention, the authors prepared floor plans, cross-sectional plans, and a ground temperature distribution map of about 0.8 km² of Owakudani and Sounzan mountains using a laser scanner and an infrared camera equipped with a UAV (Unmanned Aerial Vehicle).

The survey was carried out from March to April, 2019, and three-dimensional point group data of 400 points/m² were acquired by a high-density laser scanner.

As a result, it became possible to express detailed microtopography of crater and fumarole, and it was also possible to confirm the deformation and small collapse of countermeasure works such as the crack of hillside work.

Continuous measurement in the future is considered to be effective as a monitoring method.

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