

# Analysis of slope failure and landslides are distributed in granite area used by high-resolution airborne laser altimetry

# Shoji Doshida[1]; Masahiro Chigira[2]

[1] Division of Geo-Disaster., Kyoto Univ.; [2] DPRI

<http://www.slope.dpri.kyoto-u.ac.jp/mountain/doshidahp/index.html>

Airborne laser altimetry that had begun to be put to practical use can measure surface of the earth in detail and make digital elevation model (DEM) that it is detailed below 1m meshes widely. However, an analytical technique of geographical features where the airborne laser altimetry was used is not established. Target of this research is that the influence that geological features exert on the formation of minute geographical features is analyzed, and the relation between geographical features and geological features is quantified used by datum of airborne laser altimetry (Thereafter, it is called the Airborne laser data) Especially in this announcement, quantification is referred the relation between the geographical features (slope failures and the landslides) in granite and granodiorite distribution region.

We selected three regions for this research; the northern Mt.Kaba region (Ibaraki Prefecture), the Obara village (Aichi Prefecture), and Aratani river valley the (Hiroshima Prefecture) that are granite distribution regions.

We described contour line chart (line interval 1m) was made by using the Airborne laser data, and the landslides and the slope failures region were marked in the contour line chart. The geological map in the region of airborne laser data was also described as compared with slope failures. Moreover, the numerical analysis was done based on the airborne laser data.

Result of this research, the width of landslide scraps are relatively narrowly and shape of landslides and slope failures are slender in granite region compared with the one in the granodiorite region. It was confirmed to differ greatly for the landslides and slope failures number and the landslides and slope failures compared with regional geological feature.