

# **Relationship between snow cover distribution and topography/vegetation using airborne laser scanning in Japan**

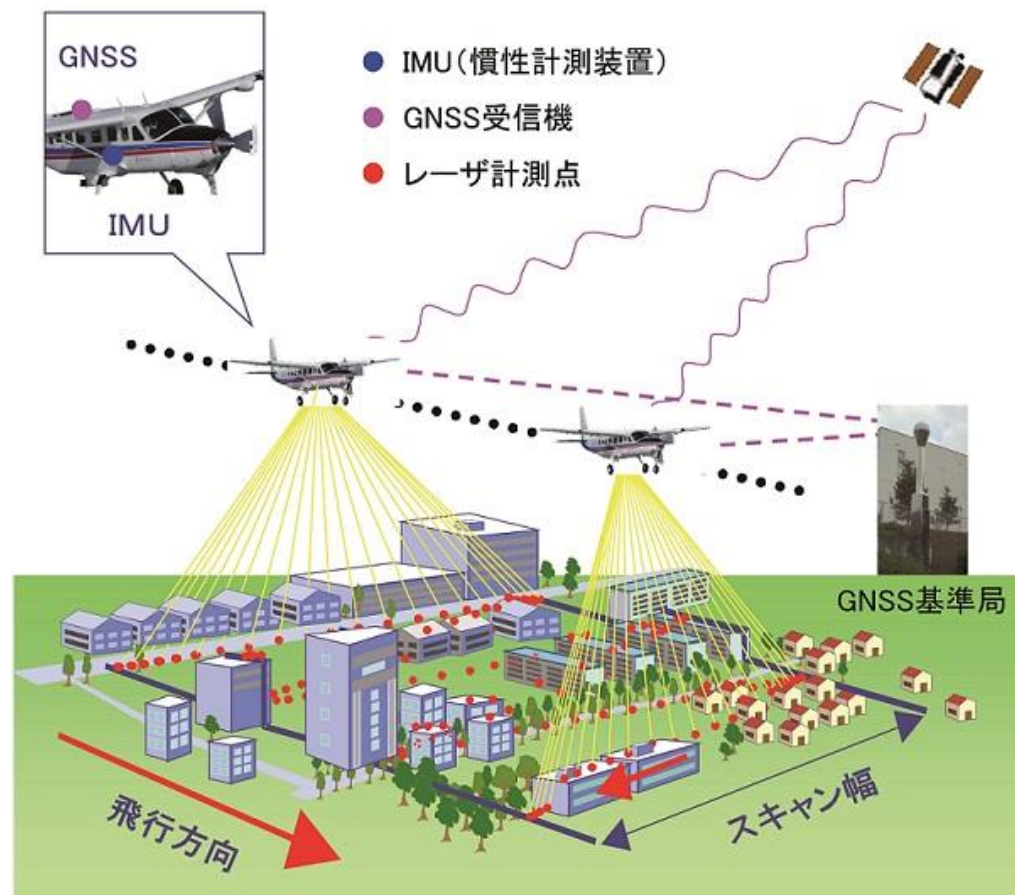
**YAMADA Takashi**

**Civil Engineering Research Institute for Cold Region**

# Back Ground

- The dam management office conducts snow surveys, but they are hazardous and burdensome.
- Today, aerial laser surveying can measure snow depth over a wide area. However, budgetary and other constraints make it difficult to measure the entire dam basin.
- To estimate the snow cover distribution in the dam basin from measurements within a limited area, the relationship with topographic characteristics is analyzed.

# Aerial Laser Scanning



- Aerial laser surveying consists of three technologies: laser ranging, GNSS, and IMU.
- The ground surface is measured by the reflection of a laser beam emitted from an aircraft.

# Point Cloud Data by ALS

- Points reflected from the ground surface
- Points reflected from other than the ground surface

