

Investigation of geological structure using airborne electromagnetic survey method in which transmitter and receiver are towed by drone.

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There are two types of airborne electromagnetic survey methods: Airborne electromagnetic survey methods(GREATEM), in which a transmission source is installed on the ground and measured in the air, and a survey method in which electromagnetic waves are transmitted from the air and received in the air. Due to the diversification of platforms to be used, miniaturization and high performance, and miniaturization of exploration equipment, ground-source airborne electromagnetic survey has been developed using a multicopter (as drone). Investigations of small areas can be explored quickly and at low cost.

We have also developed a system that can reduce the size and weight of the equipment to be mounted on aircraft, and can also mount the transmitting device on the drone. The drones used also improved in performance, and improved flight control technology enabled them to fly at the same time.

We have newly developed a transmitting device to be mounted on a drone, and performed measurements by flying two drones towing the transmitting device and the receiving device at the same time.

In this presentation, we report the results of a geological survey conducted in the Nobi Plain, Gifu Prefecture.

The transmission device was developed in the "Strengthening National Resilience (Disaster Prevention and Mitigation)" of the "Strategic Innovation Creation Program (SIP)".

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