Droneborne resistivity mapping for a shallow ground investigation

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Electromagnetic (EM) induction methods must be the powerful tools to map a resistivity distribution for the estimation of salinity and clay contents in soil and ground in civil engineering, environmental and agricultural investigations of shallow ground and soil. Usually, EM instruments are carried with hands and the measurement is carried out by walking to cover a survey area. However, it is not an efficient strategy for large survey areas. For such a situation, we propose a droneborne resistivity mapping.

We have applied a droneborne resistivity mapping in paddy fields and farms. To acquire good-quality data, we took care about the offset between a drone and an EM sensor, and the distance between an EM sensor and ground surface. As a result, the acquired data clearly show the difference between the paddy field and farm. This result must promise the further possibility of droneborne resistivity mapping.

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