

Implication of Groundwater Flow at Mt. Tsukuba by using Self-Potential Measurements and Hydrological Studies.

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In this study, self-potential (SP) measurement and hydrological studies are carried out at Mt. Tsukuba, Japan to discuss the relationship between SP and groundwater flow at hillslope.

We obtained high and low SP anomalies at the northern slope of Mt. Tsukuba. They coincide with the region of upward and downward flow of groundwater, respectively. It implies that groundwater flow makes the SP distribution. On the other hand, relatively high SP anomaly was observed at the summit of Mt. Tsukuba. They would not be concerned with upwelling fluid flow. Numerical simulations show that this high SP anomaly may be caused by the difference of hydraulic conductivity near the summit.