

## Estimation of the slip-surface of landslide using electromagnetic approaches at Nishiikawa, Japan

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Landslide is one of the severe disasters triggered by rainfalls or earthquakes. Recently, landslides tend to increase by global-warming. Therefore, exploration into behavior of landslide becomes more important disaster prevention.

In order to explore landslide's behavior, we verified if there is slip-surface or not using magnetic approaches. In previous research, we had selected a test slope at Nishiikawa, Tokushima and we had performed electrical resistivity exploration and core-sampling. The core-sampling results indicate that there exists the structure which corresponds to slip surface. To verify this result, anisotropy in magnetic susceptibility (AMS) and natural residual magnetization (NRM) of samples that include that structure and periphery of it were measured. AMS result showed that slip-surface region provides the oblate ellipsoid characteristics, which was consistent with the developmental mechanism of slip-surface during sliding. And result of NRM indicated that magnetic minerals in slip-surface region oriented certain direction. This describes that magnetic minerals was able to move in saturated region and then were oriented to direction of earth magnetism.

These studies showed the possibility to identify slip-surface using rock magnetic approach. However, we found necessity of consideration of core-sampling technique to estimate the direction of slip using this approach because samples had rotated during core-sampling.

The details will be provided in the presentation.

Keywords: landslide, anisotropy in magnetic susceptibility, natural residual magnetization