

Fully polarimetric ALOS PALSAR data to aid geological mapping in densely vegetated areas

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The analysis of image data from space-borne or airborne sensors has been widely used to aid geological mapping. The advantages of using remotely sensed data are numerous and include the fact that large areas can be observed in a single observation. Satellite data are generally used for base-map creation prior to field mapping campaigns. Furthermore, the data can be used to identify areas with a high potential of being mineralised and, in this way, aids with mineral exploration campaigns. Generally, remote sensing investigations for the extraction of geological information involves the use of multispectral data captured in the visible and near infrared (VNIR), shortwave infrared (SWIR) and thermal infrared (TIR) portions of the electromagnetic spectrum (EMS). Sensors capturing SWIR and TIR data are considered to be ideally suited for geological interpretations since, at these wavelengths, the reflection of radiation is dependent of the chemical composition of the surface being observed. Therefore, characteristic absorption and reflectance patterns for specific wavelength ranges can be diagnostic of specific rocktypes.