

## 散乱点からのマルチオフセット反射記録と速度解析

### Multi-offset reflection records from point scatterers and velocity analysis

\*尾西 恭亮<sup>1</sup>、木佐貫 寛<sup>1</sup>、小河原 敬徳<sup>1</sup>、稲崎 富士<sup>1</sup>

\*Kyosuke Onishi<sup>1</sup>, Hiroshi Kisanuki<sup>1</sup>, Takanori Ogahara<sup>1</sup>, Tomio INAZAKI<sup>1</sup>

1. 国立研究開発法人土木研究所

1. Public Works Research Institute

Ground-penetrating radar records include a lot of reflection events from point scatterers. Soil and ground in near surface includes many stones which are smaller than a typical wave length of propagated electro-magnetic waves of ground-penetrating radar. This relationship is far difference from standard reflection seismic records which include mainly reflection events from continuous layer boundaries. Records of ground-penetrating radar show a lot of diffraction patterns from small scatterers which are frequently main survey targets of the ground-penetrating radar surveys. When applying migration processing for the ground-penetrating radar records, the events from point scatterers sometimes change difficult to be detected in background waves. Therefore, migration processing is frequently skipped in the processing of ground-penetrating radar. The other characteristic issue due to point scatterers in ground-penetrating radar survey is much noise in a semblance panel for velocity analysis. Point scatterers are not normally located just below the survey line. A point scatterer located with the same length of propagation path but not located just below the survey line must be located in a shallower zone from a point scatterer located just below the survey line. Different depth zones frequently have different dielectric constant and the reflection event from a point scatterer not located just below the survey line, which is frequently located in a different velocity zone, makes a strong error event in the semblance panel. We want to discuss this issue and try to avoid it using 3D multi-offset records.

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