

Multichannel Analysis of Surface Waves (3A)

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Multichannel Analysis (1)

a fast method of evaluating near-surface vs profile
without changing receiver configuration

the inclusion of noise wavefields

- body waves (direct, refracted, reflected, and air waves)

- reflected

- higher-modes

ground roll can be identified

- by their different coherency in arrival times on a multi-channel record and

can be handled properly

- by various kinds of multi-channel data processing techniques

the strong first arrivals (refraction events) is most troublesome.

Inclusion of nonplanar Rayleigh waves

Multichannel Analysis (2)

On a Vibroseis uncorrelated record,
all the characteristics of ground roll
can be identified on the level of each single frequency component
because each individual frequency component is
represented in isolation with other components.

Cross-Correlation of Stacked Amplitudes with Sweep (CCSAS) can be used to
construct the dispersion curve.

References

- [1] <http://en.wikipedia.org/>
- [2] C.B. Park, et. al, "Multi-Channel Analysis of Surface Waves (MASW)"