Geophys. J. R. astr. Soc. (1970) **21**, 403–411.

Summaries

Estimation of Signals in Multiple Noise: A Unified Approach

Anders Christoffersson and Bo Jansson

A unified approach for the estimation of signals in multiple noise is given. In the general form of the method we will allow for several signals to be estimated simultaneously. It is possible to utilize prior knowledge of the signal. Existing methods fall out as special cases, as we simplify our model. The large sample statistical properties are studied and it is proved that use of prior knowledge is essential for consistent estimates.

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Submitted to *Geophys. J. R. astr. Soc.*

Seismic Signals Processing by Using the Method of Digital Deconvolution

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The weak onsets of interfering phases of seismic signal were identified by using the principle of deconvolution. It was considered that wave groups in a seismogram are of the same character and that they may be simulated in the first approximation by the Berlage function (equation (3)). With the given seismogram as the output signal and the selected Berlage function as the input signal the corresponding unit impulse response function was calculated. By the unit impulse response (Figs 3–5), clear onsets of interfering phases can be found. In this way, the deconvolution procedure may be helpful in the interpretation of seismic signals.

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To be published in *Geophys. J. R. astr. Soc.*