

THE INFLUENCE OF FREQUENCY CONTENT AND APERTURE RANGE ON SEISMIC INVERSION RESULTS (C-33)

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A review is given of seismic inversion in one, two and three dimensions. Ample attention is paid to the difference between inverse filtering and parametric inversion. The influence of a priori information on both inversion methods is shown. The concepts bias and variance are critically discussed. The expressions for the seismic inversion results are translated to the frequency-wavenumber domain. From those expressions it will be derived that the spatial resolution property of inversion results is defined by two basic parameters:

- frequency range,
- aperture range.

In particular, vertical and lateral resolution properties will be derived for inversion results in post-stack and pre-stack inversion. Finally, conclusions will be given on the ability to retrieve trend information and fine detail from seismic inversion results.

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