

# Importance of wavelet phase stability in seismic interpretation

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### Abstract

Accurate knowledge of the seismic wavelet is important in acquisition, processing and interpretation. Operators and service companies therefore place great emphasis on controlled-phase acquisition and processing such that wavelet instabilities are eliminated or at least kept at a minimum. Seismic interpretation can then be performed with the highest possible confidence, circumventing potential pitfalls introduced by laterally and/or temporally varying wavelets.

This talk will review the importance of wavelet stability from both a processor's and interpreter's perspective, describe the various generic types of wavelets that are encountered in processing and interpretation, outline simple quality control measures to ensure wavelet (phase) stability, and finally describe how analysis of a locally observed phase may help in seismic interpretation.

### Biography



Mirko van der Baan graduated in 1996 from the University of Utrecht in the Netherlands, obtained a PhD with honors in 1999 from the Joseph Fourier University in Grenoble, France, and then joined the University of Leeds, UK, where he became the Reader of Exploration Seismology. He is currently an Associate Professor at the Department of Physics at the University of Alberta in 2008. He also holds an HDR (Habilitation) from University Denis Diderot, Paris, France. His research interests include attenuation and velocity anisotropy, signal processing, and microseismicity. He is an Associate Editor for Geophysics, serves on the SEG Research Committee, and a member of EAGE, CSEG and SEG.

Mirko is the Principal Investigator of the joint-industry project on Blind Identification of Seismic Signals, focusing on advanced statistical signal processing and technology/knowledge transfer. He also co-leads the Microseismic Industry Consortium, a joint project with David Eaton at the University of Calgary, with the aim of developing next-generation technologies for microseismic monitoring.