
Phase and Polarity Issues in Modern Seismic Interpretation

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Zero phase is the objective of almost all seismic data processing today and its interpretive benefits are well known. However it is difficult to achieve. No more than 50% of seismic data achieves zero phase sufficiently closely for its benefits and accuracy to be properly enjoyed. Furthermore 90 degree phase is a remarkably common accident and, if not identified, can cause havoc to detailed seismic interpretation.

All interpreters should know how to visually assess the phase and polarity of their data. I regularly meet those who discover late in the interpretation that the data has a different phase or opposite polarity to what was first thought. In this paper recommendations for phase and polarity assessment will be made, and several phase circles will be presented.

For zero phase data time and amplitude are colocated, and many interpretive procedures on modern workstations are based on this fact. For other phases complications arise, because time and amplitude are in different locations. Suggestions will be offered for handling the all-too-common 90 degree phase data.
