

## **The Prediction Error Filters Applied for Structural Dip Interpretation**

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Currently, one of the main problems faced in reservoir characterization is the need to infer subsurface properties from seismic data. Due to scarcity of well-log information, seismic attributes can be applied as delimiters of zones with similar seismic response that may be due to a set of reservoir properties.

These techniques are called “classification techniques” and are based on the fact that seismic waves collect information from the physical properties of the subsurface. One of these classification methods is the Prediction Error Filter (PEF) also known as Autoregressive Filters because they are calculated directly from the signal itself and are able to find missing parts of the signal. These filters are also used to compare and classify the seismic response with respect to a vector of reference. The main advantage of using this type of filters is that they can discriminate between zones of more uncertainty so the interpretation can be done in a shorter time and in a more accurate way. In this paper, we will apply the PEF for structural dip interpretation and compare it to more traditional estimates such as using discrete dip scans to 3D seismic data from the Midcontinent. We will also compare the PEF to more traditional stratal (or proportional) slicing techniques routinely used by seismic interpreters.