

SEISMIC REFLECTION NOISE FILTER FOR OIL PROSPECTING

BACKGROUND

The Oil Prospecting industry faces a major problem of contamination of signals while using Seismic Reflection method. The contamination of signals/ measurement data is caused by low frequency noise. The noise contamination affects accurate interpretation of signals/data as it is very difficult to separate low frequency coherent noise from the reflected signal to be analysed. The technology developed at University of Manchester provides a solution to this problem, and significantly improves accuracy of Seismic Reflection.

THE TECHNOLOGY

To separate low frequency noise for reflected signals, this innovation uses a novel approach based on active noise filtering. It encompasses use of a complex algorithm that operates two secondary acoustic devices around the sound generator and sensors to filter out unwanted low frequency noise.

A unique feature of this technology is its capability of cancelling the unwanted noise across the domain to be protected and keep the wanted signal unaffected. The algorithm requires only measuring the total field at some boundaries.

KEY BENEFITS

- Filters out unwanted low frequency noise while ensuring preservation of reflected signals.
- Capable of dealing with oil exploration site conditions including non- repeatable noise.

APPLICATIONS

- Seismic reflection in oil prospecting
- Seismic reflection in mining/mineral exploration

OPPORTUNITY

Open for industrial collaborations with Oil field service providers and Oil exploration companies.

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