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# **BOOSTING VSP RESOLUTION USING HIGHER ORDER HARMONICS: A CASE STUDY**

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## **ABSTRACT**

Vibroseis, a seismic energy source, is a nonlinear system and as a result generates energy at higher multiples of the frequency, harmonics, along with the signal at the intended frequency. This higher frequency harmonics content is usually disregarded in conventional vertical seismic profile (VSP) processing. We establish that this higher frequency content can be recovered as signal to enhance the seismic resolution, if uncorrelated raw waveforms are used in deconvolution process.