# Processing Seismic Data in the Presence of Residual Statics

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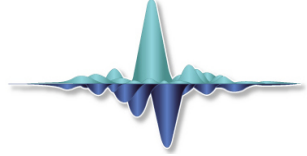
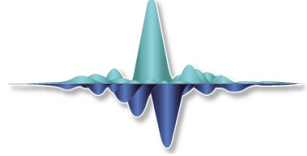
# Outline



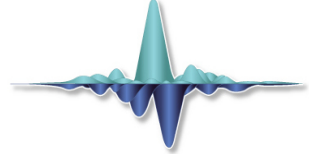
- Motivation
- Algorithm
- Synthetic Examples
- Real Examples

# Motivation



- Processing tools that rely on sparsity or simplisity promotion can fail in the presence of static shifts.
- Many methods can solve for static shifts, but can we still process data with static shifts?
- Here we adapt radon multiple attenuation and reconstruction to work in the presence of small static shifts.

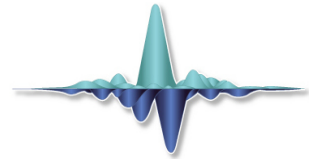
# Projection Onto Convex Sets



$$D^k = \alpha_1 D^{obs} + (1 - \alpha_1 S) F_D^{-1} T F_D D^{k-1}$$

$\alpha_1 \rightarrow 1$ when data are free of noise.

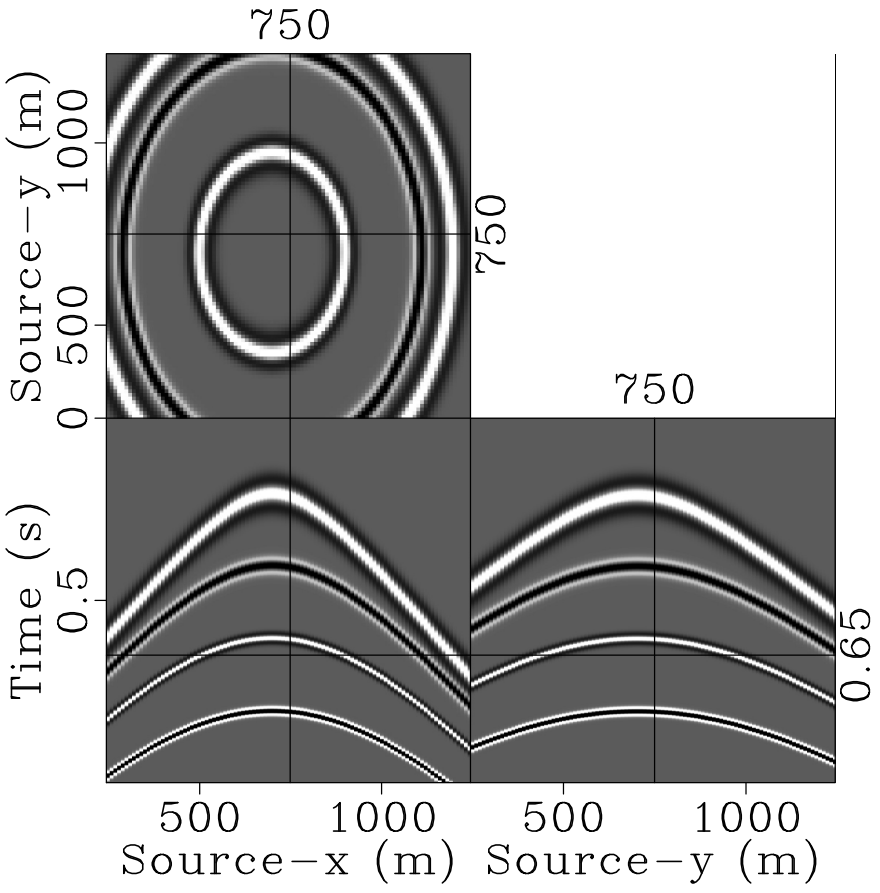
# Projection Onto Convex Sets with statics computation



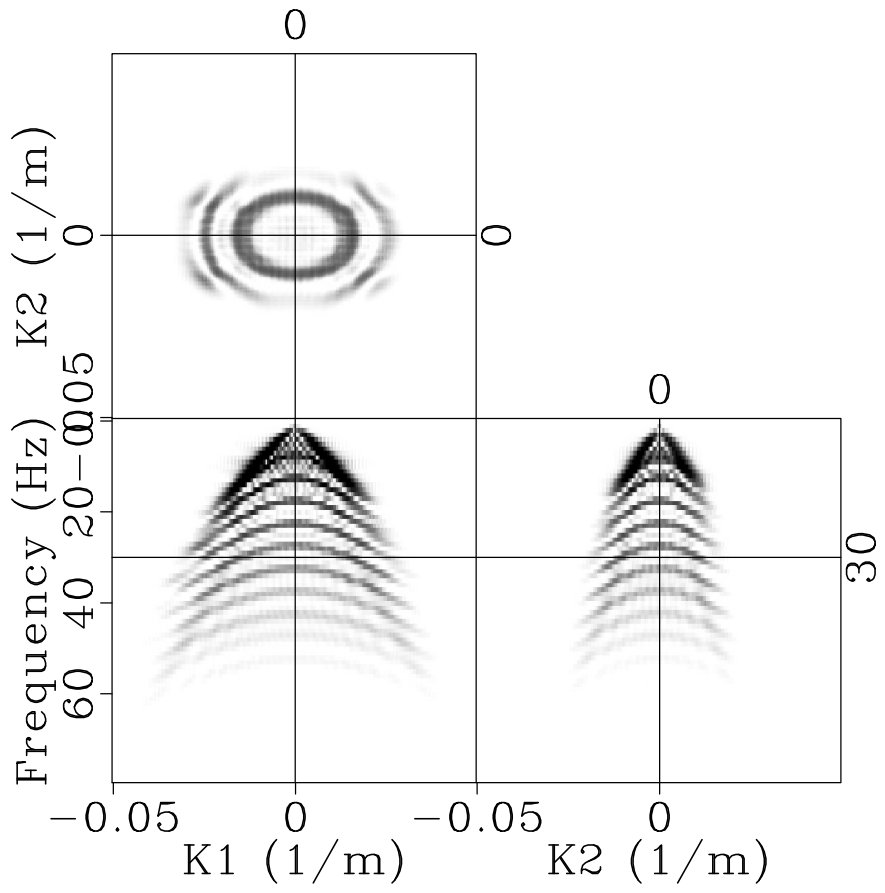
$$D^k = \alpha_1 D^{obs} e^{-i\omega(1-\alpha_2)\tau^k} + (1 - \alpha_1 S) F_D^{-1} T F_D D^{k-1}$$

$\alpha_1 \rightarrow 1$ when data are free of noise.
$\alpha_2 \rightarrow 1$ when data are free of statics.

# Multiplots




(a)




(b)