NUMERICAL EXPERIMENT: POST-STACK DECONVOLUTION

use chain in post stack sense

NUMERICAL EXPERIMENT: PRECONDITIONED LEAST-SQUARE RTM

use chain to accelerate LSRTM

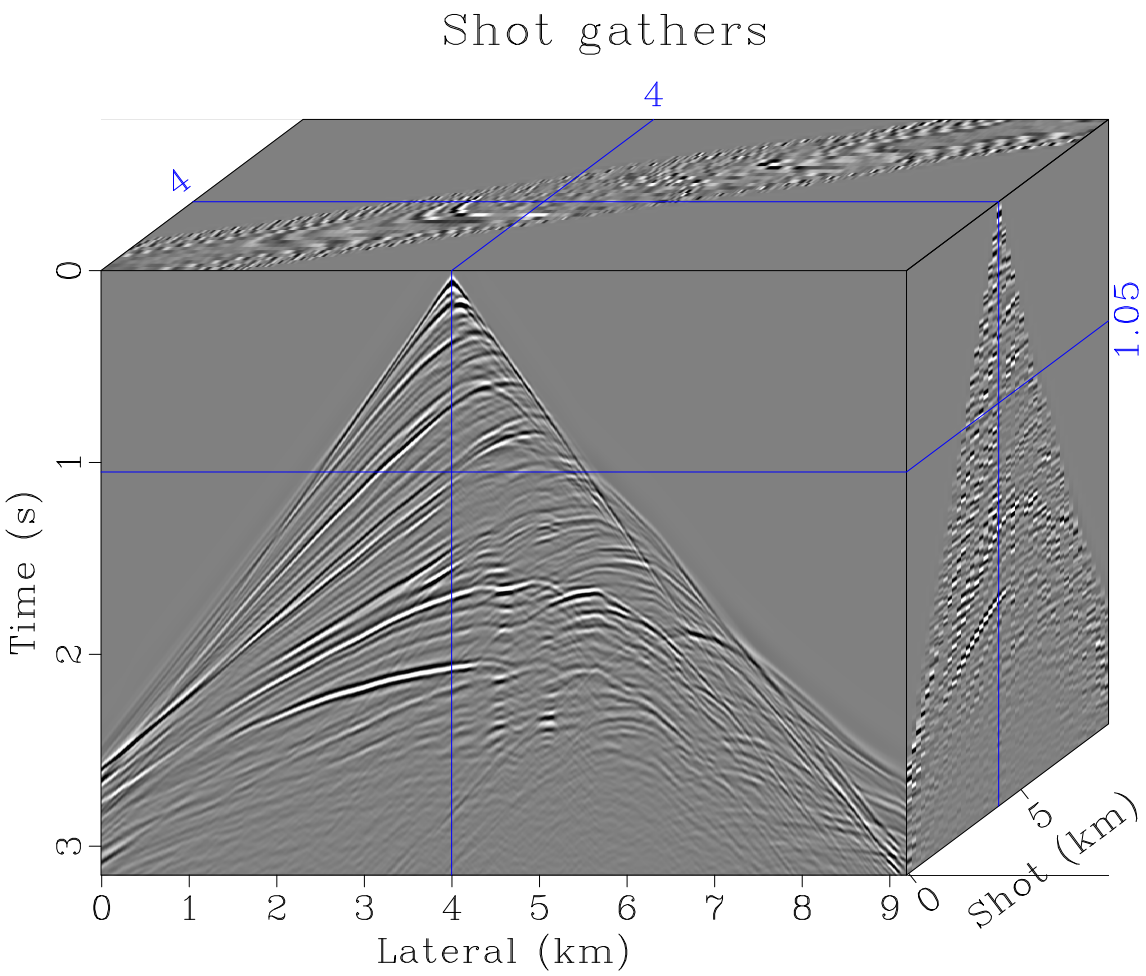

Figure 1: Shot gathers

This work was done under the supervision of Dr. Sergey Fomel.

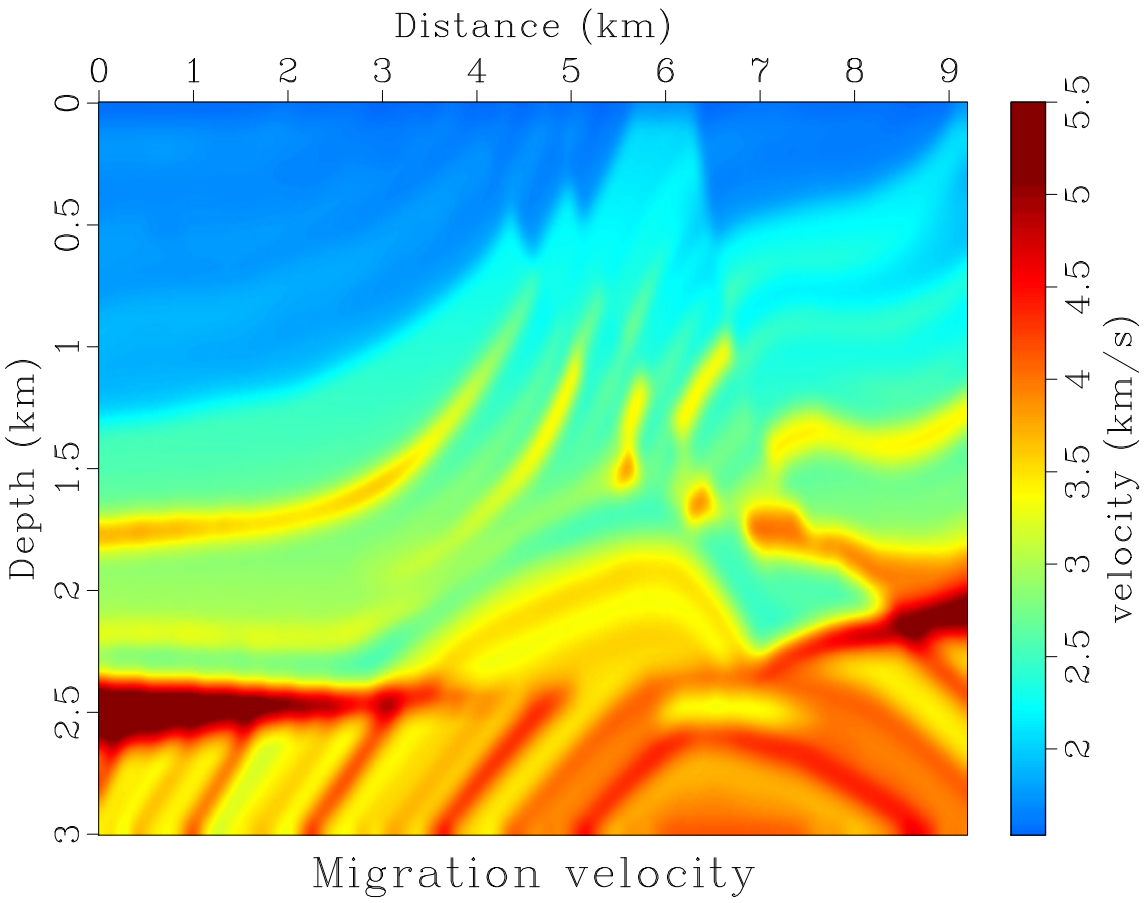

Figure 2: Migration velocity for prestack migration

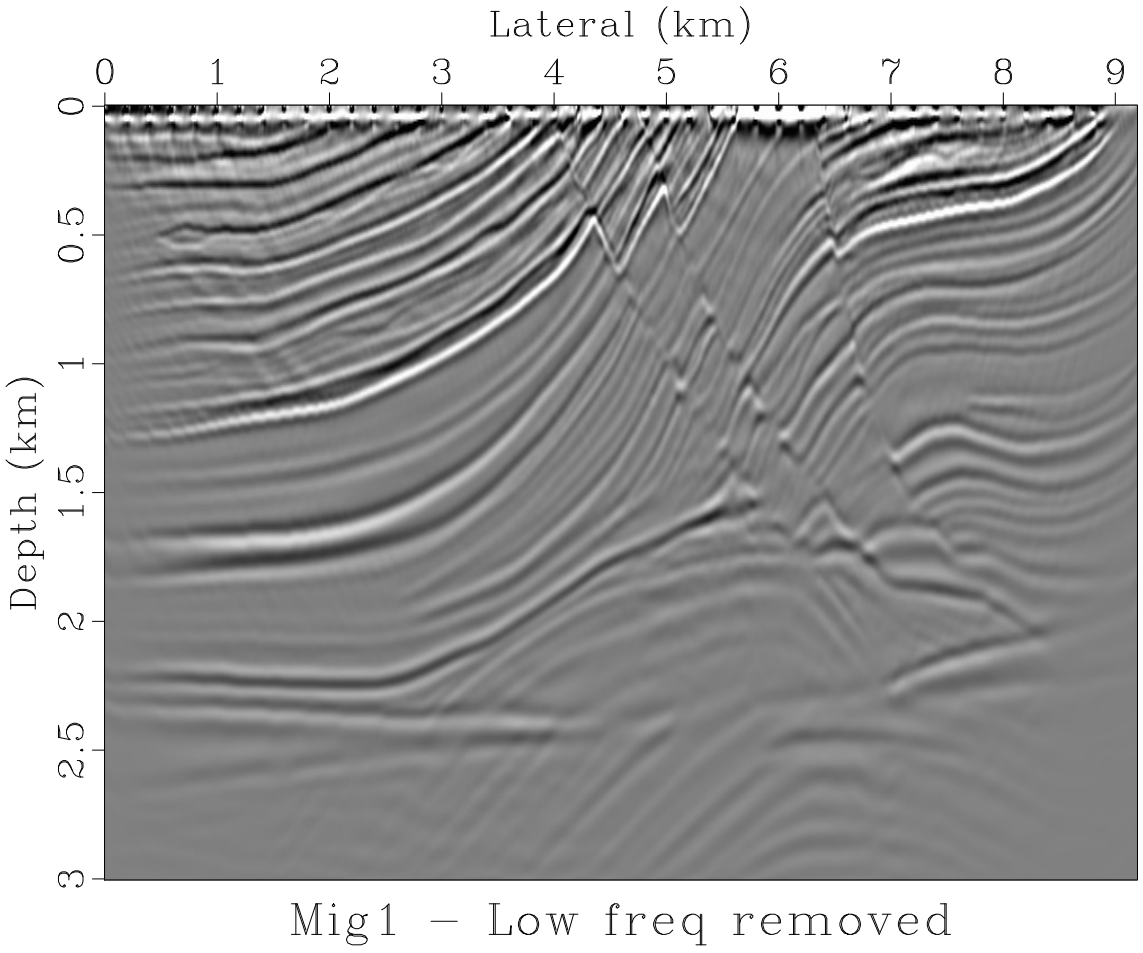

Figure 3: RTM Image

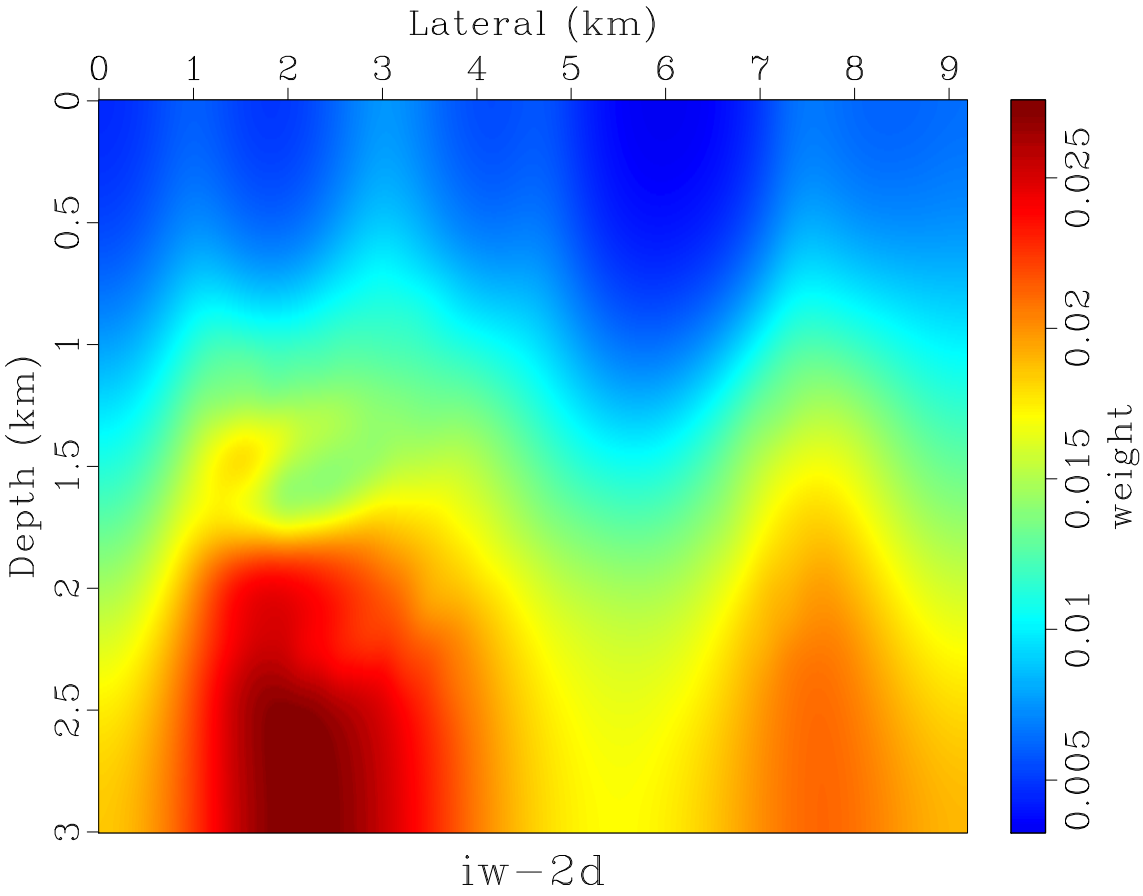

Figure 4: $\mathbf{W^{-1}}$

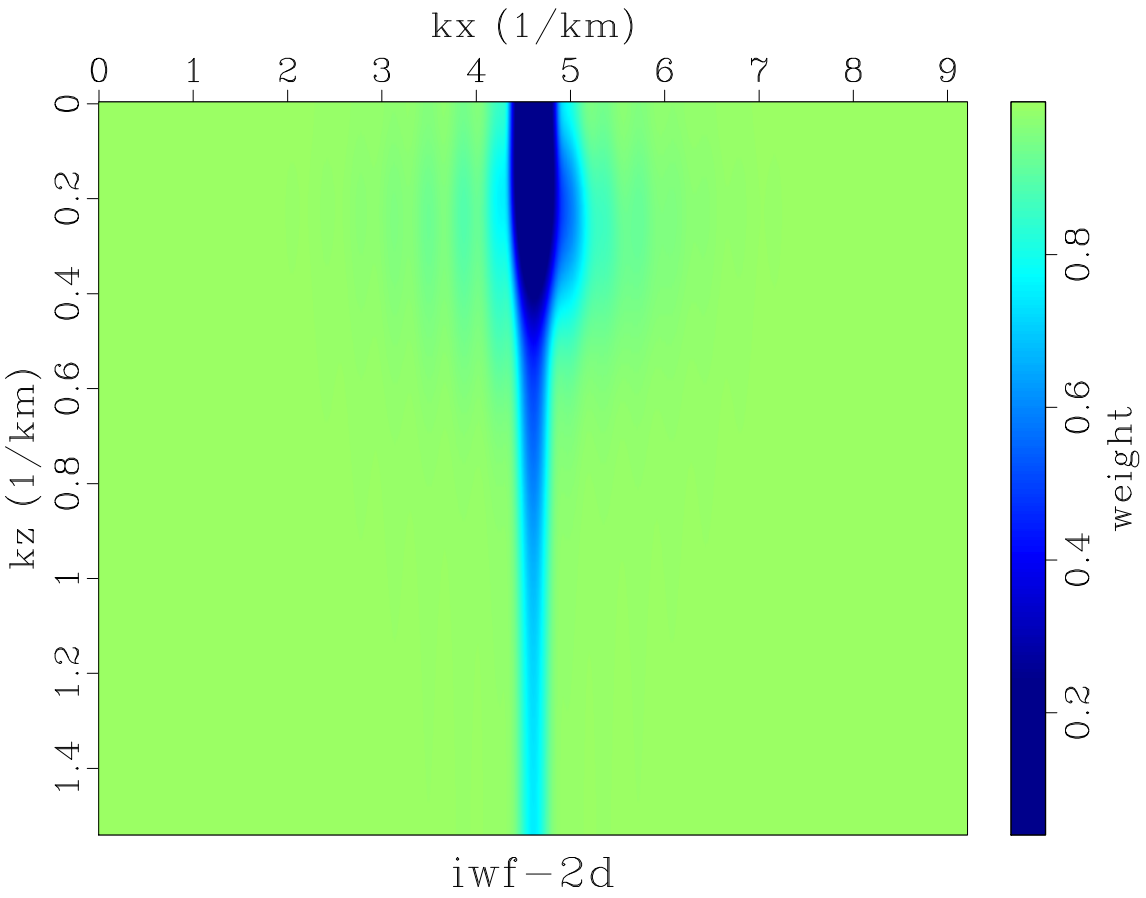

Figure 5: $\mathbf{W_f^{-1}}$

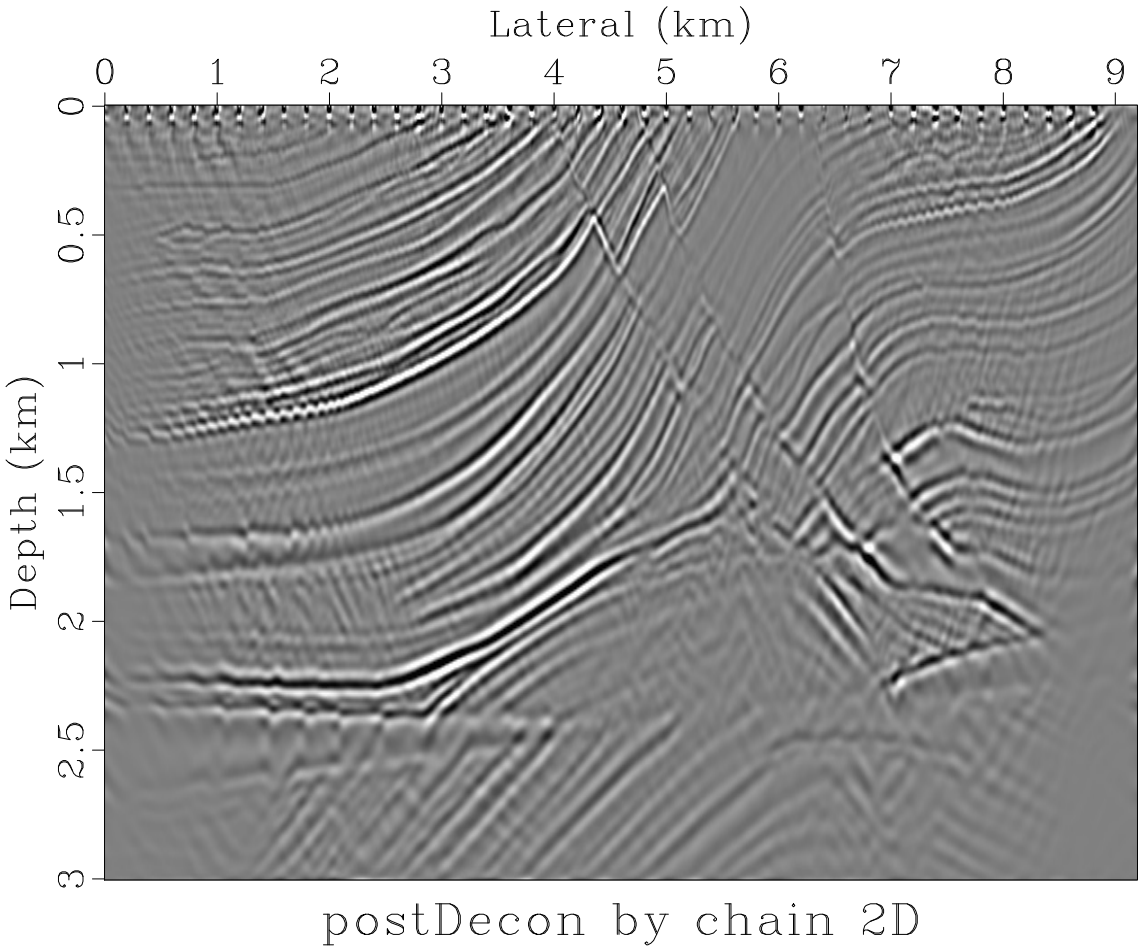

Figure 6: Poststack Deconvolution Image

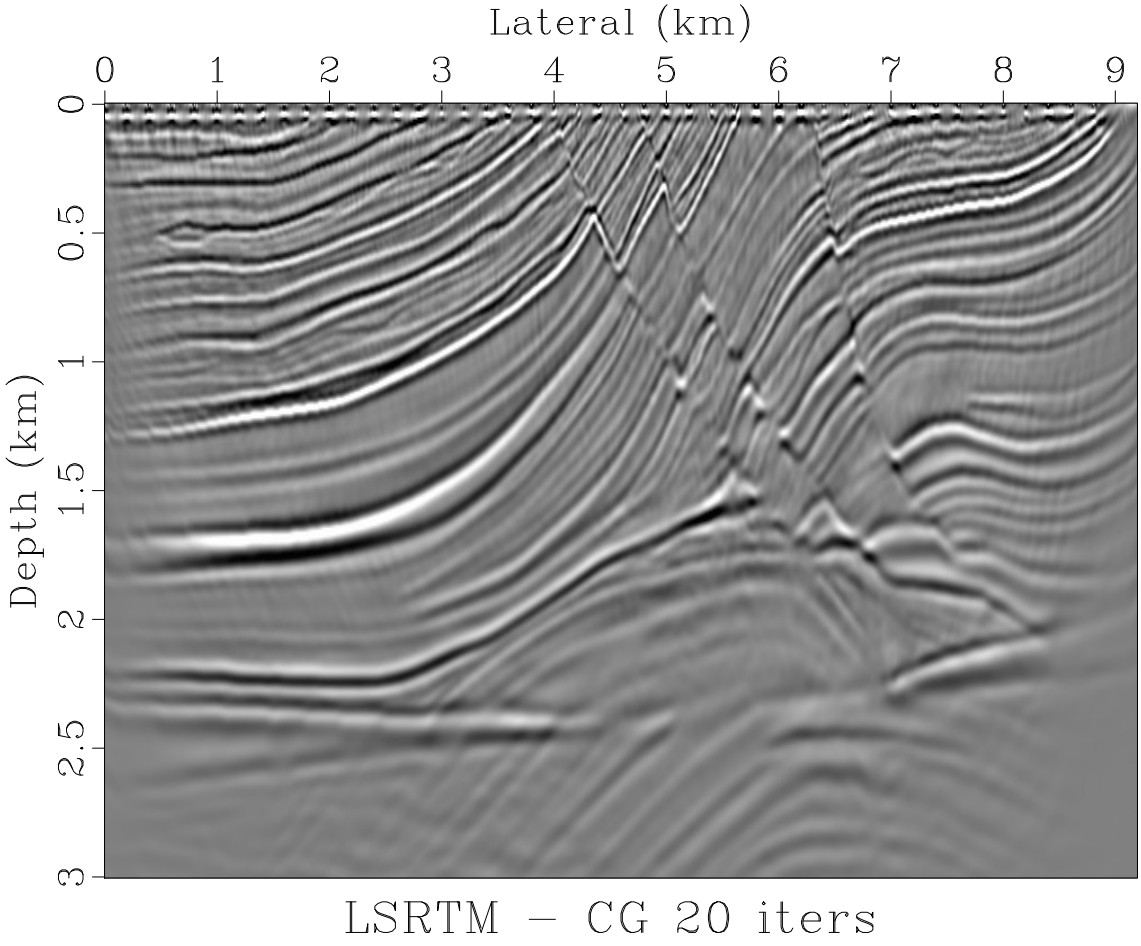

Figure 7: LSRTM Image without Preconditioner 20 iterations

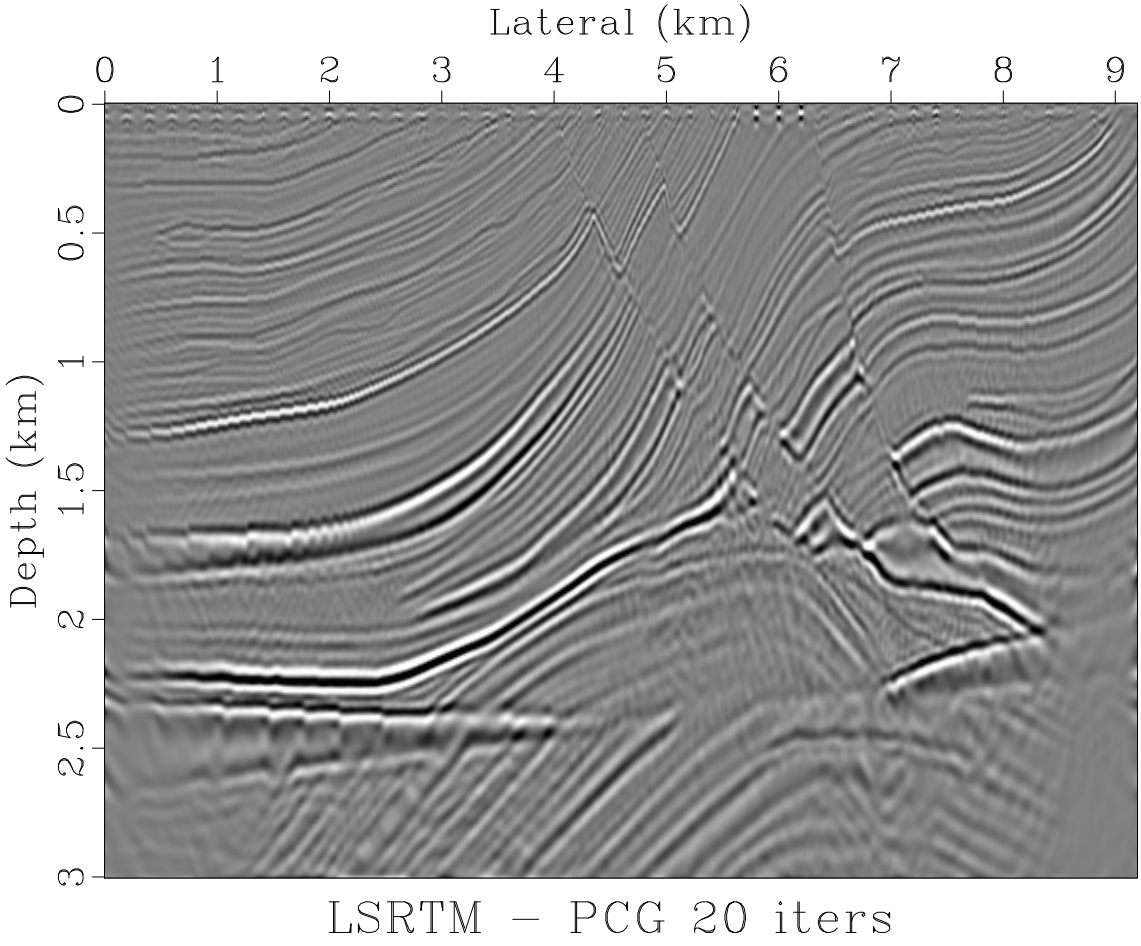

Figure 8: LSRTM Image with Preconditioner 20 iterations $\mathbf{W^{-1}}\ \mathbf{W_f^{-1}}$

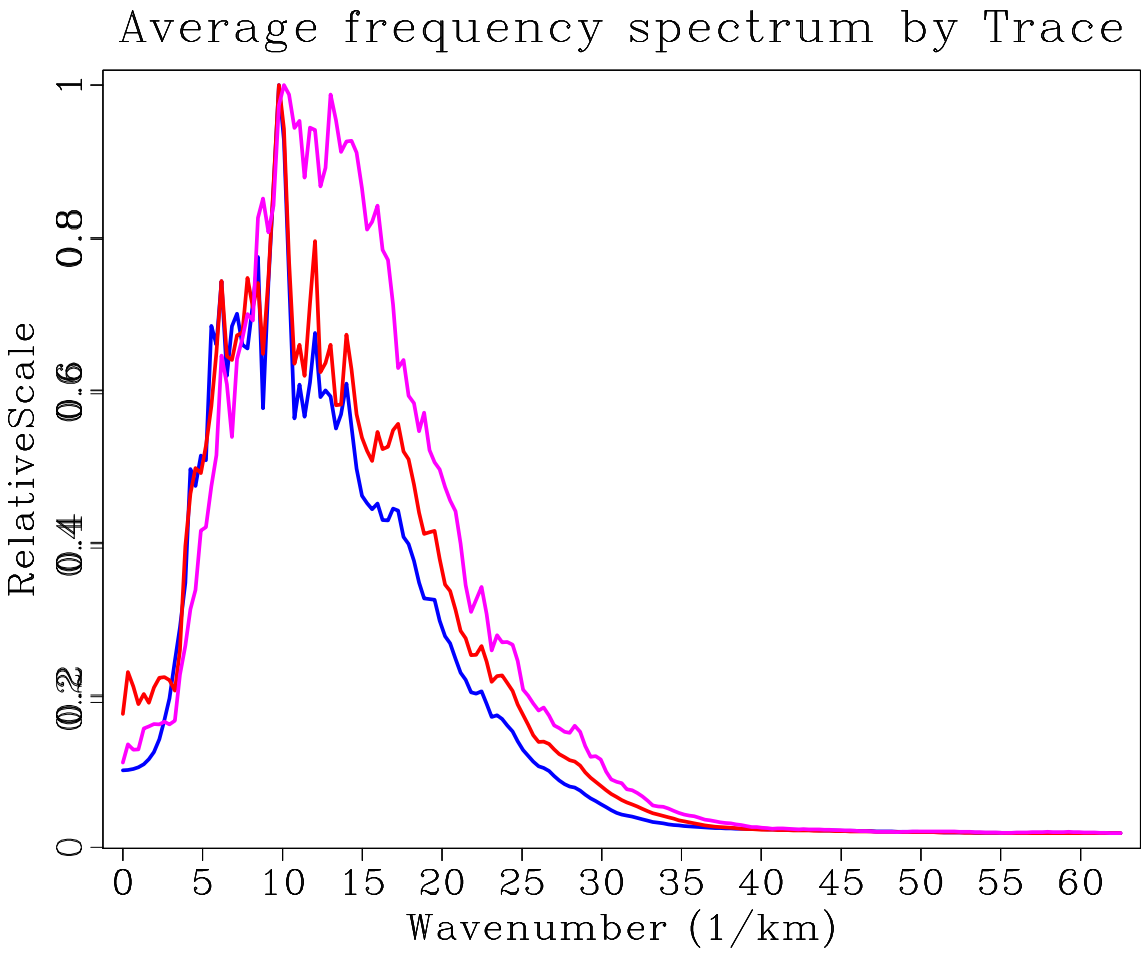

Figure 9: Freqeuncy spectrum: mig1(blue) cg(red) pcg(pink)

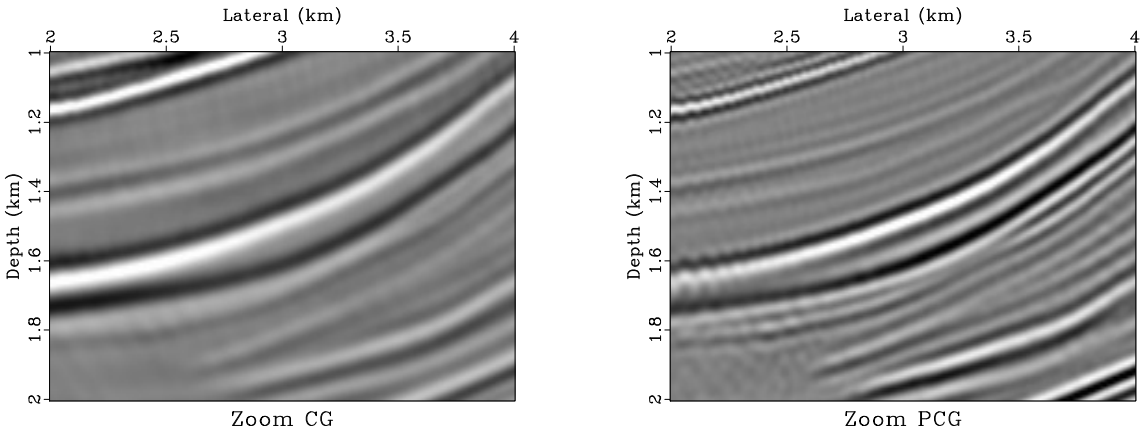

Figure 10: Zoom-in Comparison1

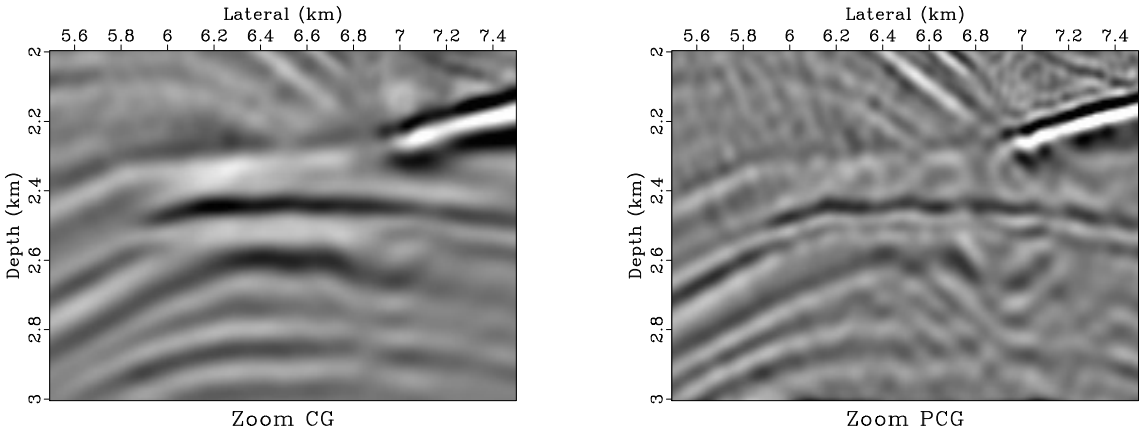

Figure 11: Zoom-in Comparison2

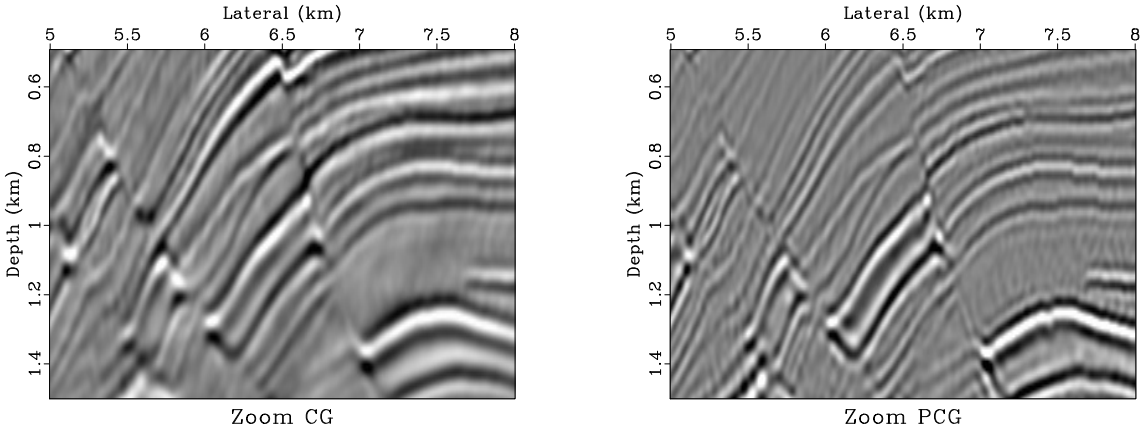

Figure 12: Zoom-in Comparison3

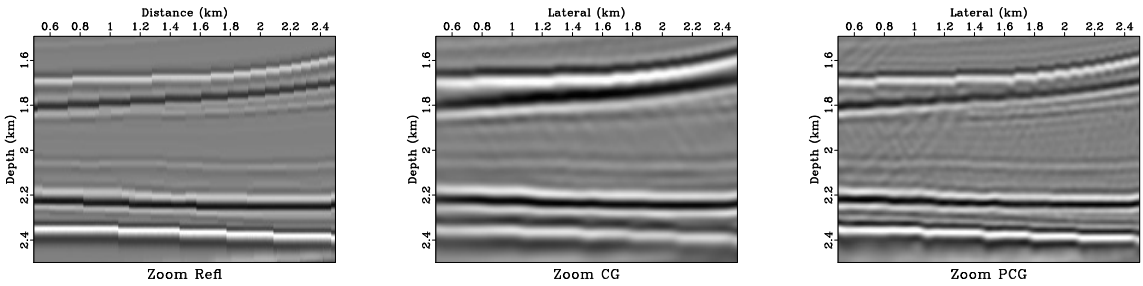

Figure 13: Zoom-in Comparison4 - note the stair-like reflectors

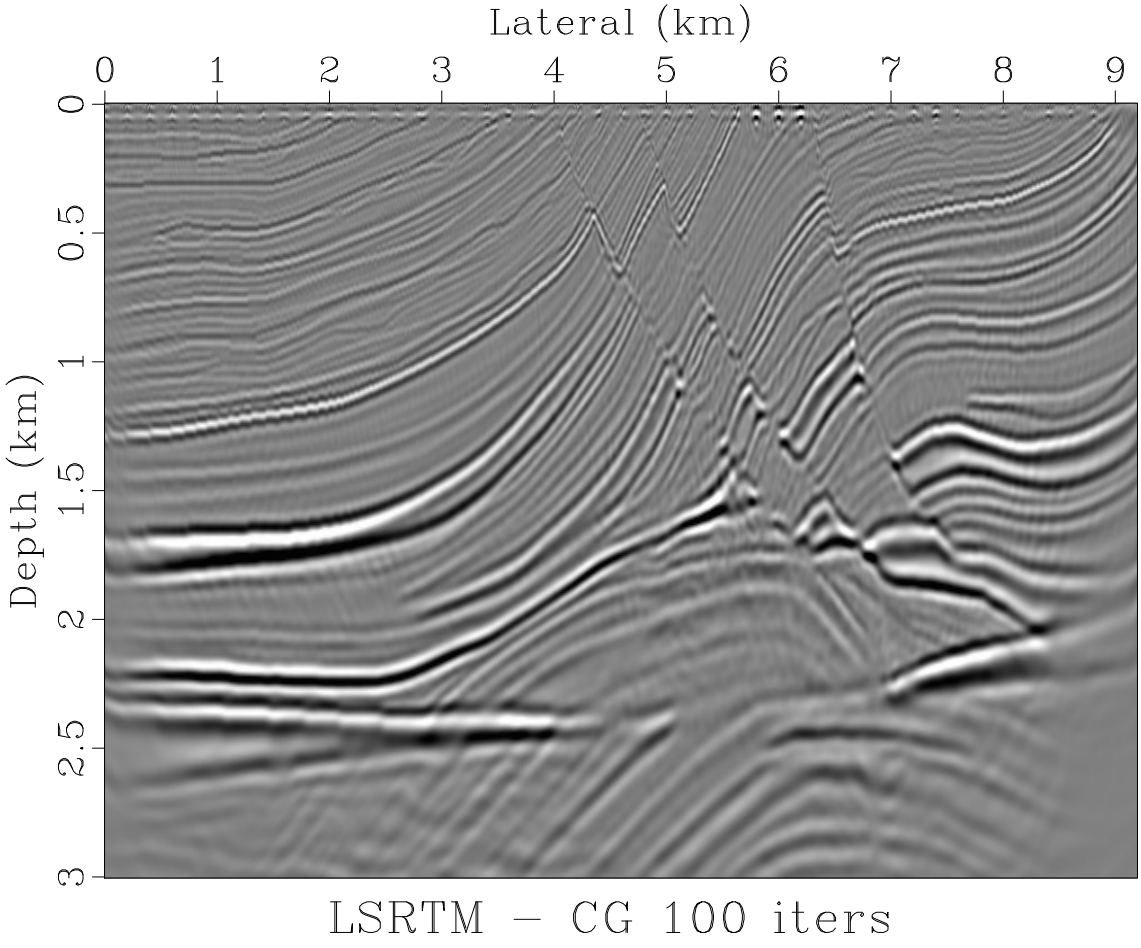

Figure 14: LSRTM Image without Preconditioner after 100 iterations

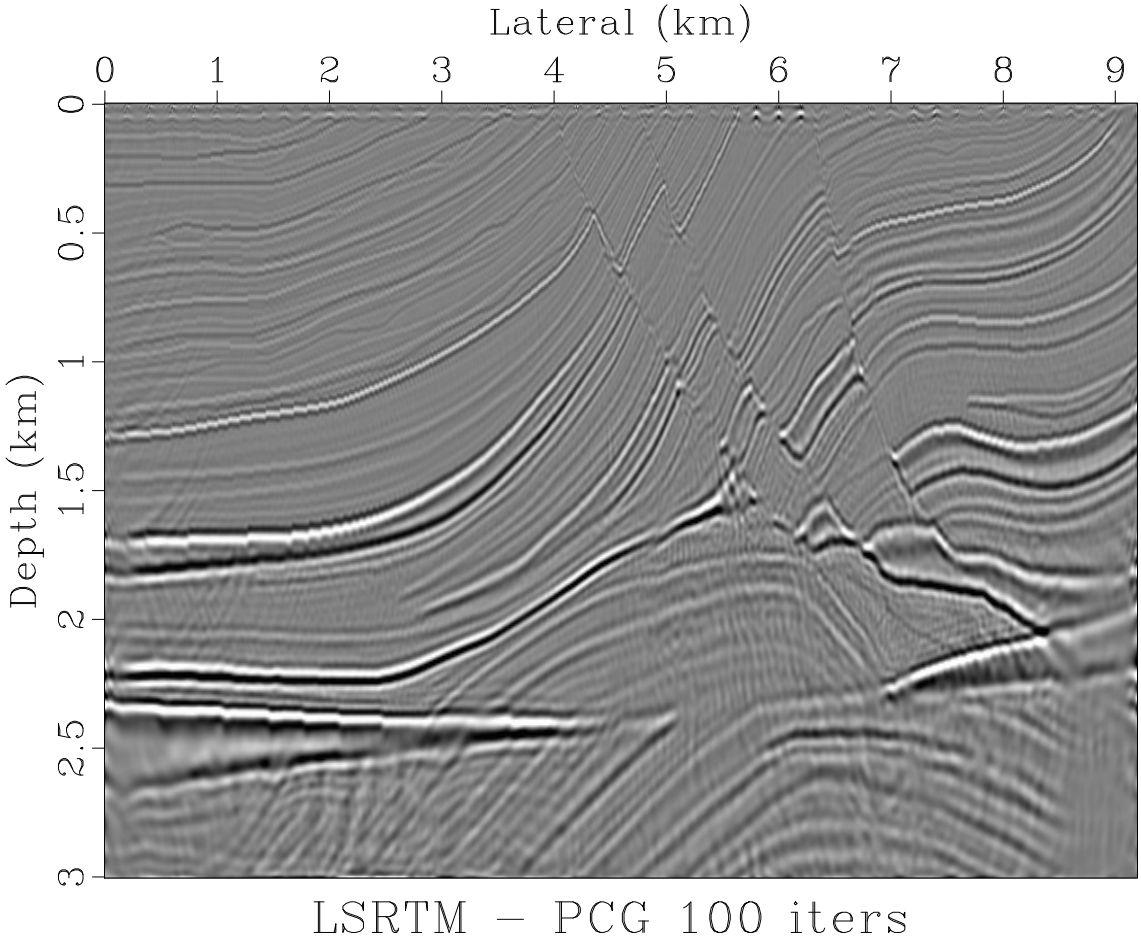

Figure 15: LSRTM Image with Preconditioner after 100 iterations

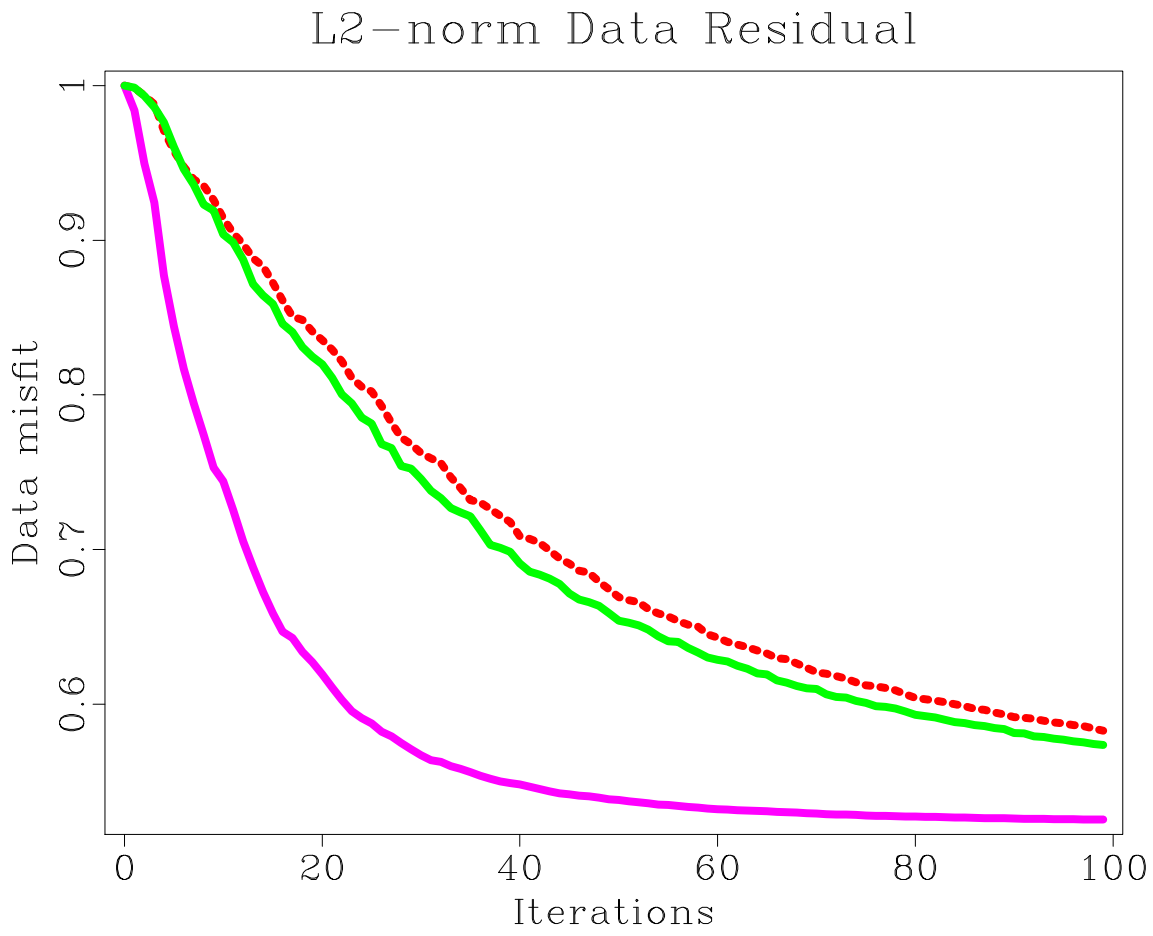

Figure 16: Normalize data misfit dash=without preconditioner solid(green)=with weight in space only solid(purple)=with chain preconditioner