

## Interactive comment on "Complex noise suppression and reconstruction of seismic reflection data from fault structures using Space Lagged Singular Spectral Analysis" by R. K. Tiwari et al.

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Received and published: 22 July 2014

1. As suggested by the referee we have changed the word Spectral to Spectrum

2. We have shortened the abstract.

3. We have included all the references as suggested by the referee.

4. All the mathematical formulations have been carefully revised and appropriate definitions of each term are explained. The terms in equations 3 and 4 are clarified and appropriately defined as per the recent literature. We have also corrected the manuscript C339

for typos and equations.

5. As suggested by the referee we have thoroughly discussed these parameters in our revised manuscript refereeing all the above papers and also have discussed in accordance with the problem of denoising of seismic records.

6. We have provided the simulation studies on a set of synthetic data along with an example of sensitivity of the method for noisy.

(Figure: a) Pure synthetic data of normal fault model with diffraction energy b) Synthetic data contaminated with complex noise (10% random +10% chaotic c) SSSA output of Synthetic data shown in Fig.b .d) Synthetic data contaminated with complex noise (10% random +20% chaotic) e) SSSA output of Synthetic data shown in Fig.d. f) Synthetic data contaminated with 50% complex noise (10% random noise +40% chaotic noise) g) SSSA output of Synthetic data shown in Fig.f.)

Interactive comment on Nonlin. Processes Geophys. Discuss., 1, 649, 2014.



Fig. 1. a) Pure synthetic data of normal fault model with diffraction energy b) Synthetic data contaminated with complex noise (10% random +10% chaotic c) SSSA output of Synthetic data shown in Fig.b .d) Synt

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