



# ***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.***

**R. K. Tiwari et al.**

rekapalli@gmail.com

Received and published: 22 July 2014

1. As we are applying the method on seismic data series in time domain along the spatial direction, therefore, in order to differentiate from the SSA, we changed, it as Spatial SSA (SSSA) , although the procedure is same.
2. As suggested by the referee, we have described basic acquisition parameters like sampling time interval, receiver/channel separation etc in the revised manuscript. We have also included basic processing steps in the revised version.

Full Screen / Esc

Printer-friendly Version

Interactive Discussion

Discussion Paper



3. We have improved the image resolution and quality to make clear visibility of the faults.
4. We have provided the synthetic examples with diffraction energy on the fault models with various kinds of noises (with different levels). We have also discussed the outcome in the revised manuscript
5. We have taken care and have also checked the manuscript for error all the formulas.
6. Modified according to the referee suggestions
7. We have generated the synthetic data using the available borehole data, which was inserted at an appropriate position to show the match between seismic section and borehole data.
8. We have added the description of the features and their correlation with the geological feature along with the suggested references in the revised manuscript.
9. We have provided the modified self consisting flow chart in the revised version.
10. As suggested by the referee we have corrected the manuscript for typos (all lines), style and grammar. Few words are not in use for reflection seismology but they are from general geophysics and signal processing. We have modified the terminology, where ever it was required.

---

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

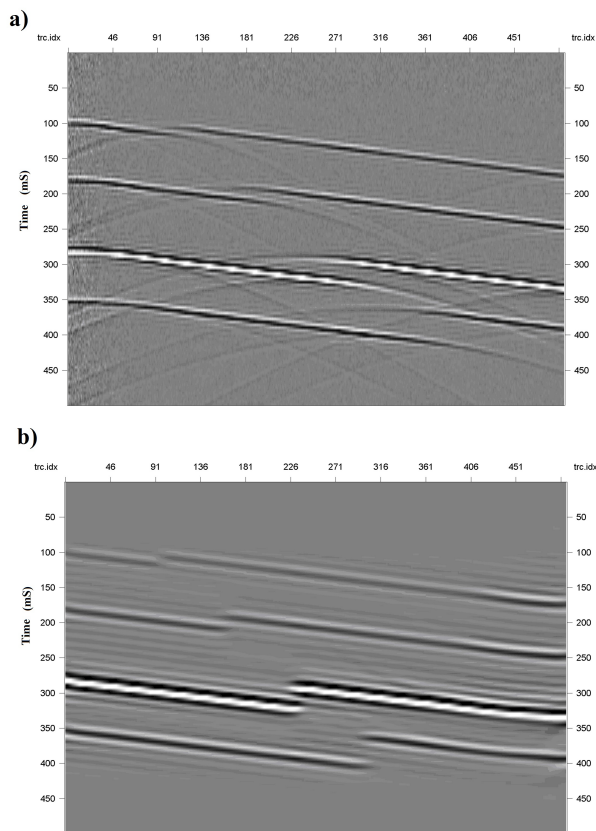
Full Screen / Esc

Printer-friendly Version

Interactive Discussion

Discussion Paper





**Fig. 1.** a) Synthetic data of reverse fault model (with diffraction energy) contaminated with complex noise (10% random +20% chaotic ) b) SSSA output

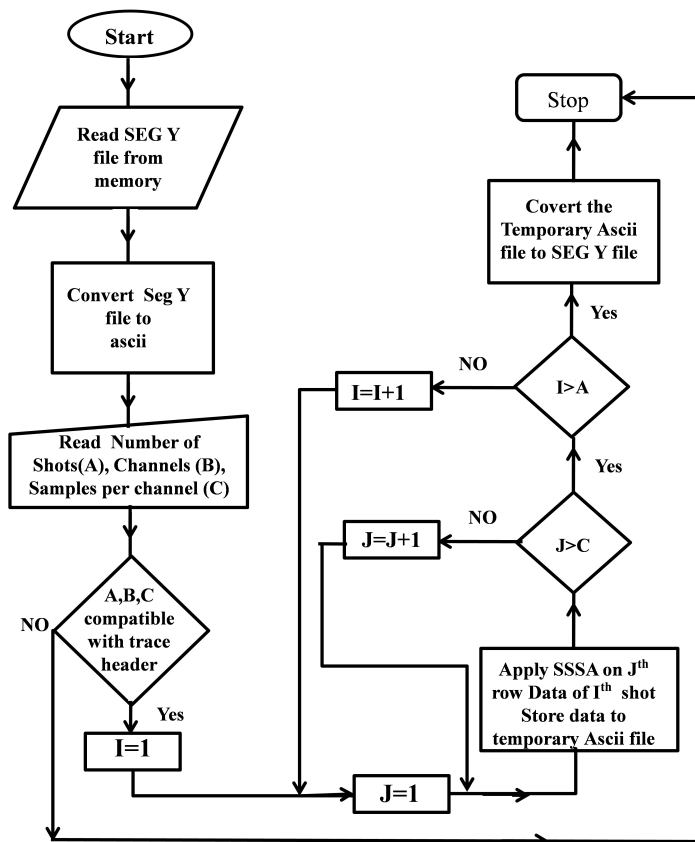
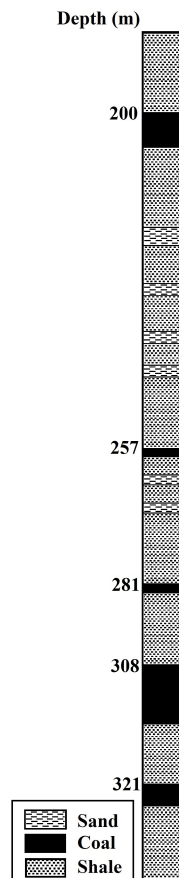
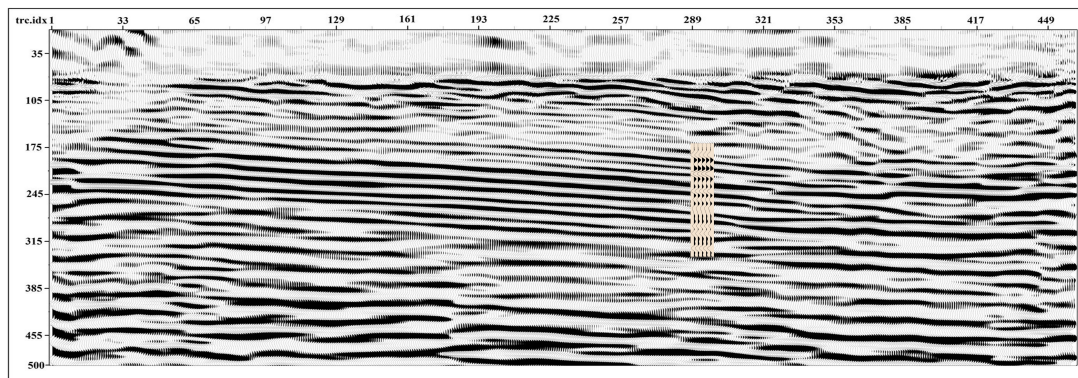


Fig. 2. Revised Flow chart



**Fig. 3.** Litho-log from study area



**Fig. 4.** Stack section with Synthetic traces

Full Screen / Esc

Printer-friendly Version

Interactive Discussion

Discussion Paper