Nonlinear Processes
in Geophysics

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Discussions

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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1. There is basic difference between the two works. The data presented in the present paper is entirely different from that of the poster and our emphasis here is to map the fault structure from a coal field which was not presented in our poster presentation.

2. We disagree with the referee's comment and we mention here that in one of our recent research works, we have provided the application SSA method for frequency filtering of seismic reflection data (Rajesh et al., 2014), where we have discussed the

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disadvantages of domain conversion. We have also the presented the application of the method using the synthetic as well as real seismic data and demonstrated that how the artifact would arise in domain conversion. Thus, we strongly refute referee's comment and state that the t-x domain processing of the data, which is used here, has an added advantage over the MSSA method. In addition to this, the spatial data series correlates more than the depth series on large scales as horizons from a constant depth owe approximately same properties.

3. We have provided synthetic examples of different spatial configuration as well as tested the sensitivity of the method for various noise types at different levels in Rajesh et al (2012). It appears that the learned referee is least concerned to see our contribution, Rather he is more interested in advising a completely new project, which is beyond the scope of the present work. In principle, we appreciate this idea but it is difficult to put everything in one paper, however, it might be interesting to work out in future research.

4. We have corrected the typos in the revised manuscript.

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