

## ***Interactive comment on “Characteristics of Monsoon inversions over Arabian Sea observed by satellite sounder and reanalysis data sets” by Sanjeev Dwivedi et al.***

### **Anonymous Referee #1**

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Review of the paper “Characteristics of Monsoon Inversions over the Arabian Sea observed by satellite sounder and reanalysis data sets” by Sanjay Dwivedi et al.

The present study investigates the atmospheric inversions over the Arabian sea observed by Satellite observations (IASI and AIRS) and also a reanalysis data set of ERE interim. The analysis included mean patterns, differences between active and break spells, weak and strong monsoons. Over all, the paper is well written and the results are interesting. Even though there are reports on monsoon inversions, the present study provides more details of the monsoon inversions. Therefore, I would like to recommend the paper for publication. However, the authors may please exam-

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ine the following comments/suggestions to improve the quality of the paper before it is published. 1) The inversion values reported are positive. I am not able to appreciate why the values are positive. How you subtracted? From higher level to lower level or other way? Another big issue is that you have fixed the pressure levels same for all the days to retrieve temperature differences, which may not be appropriate. You should examine each profile separately and identify the inversion layer and then find the difference between the layers of the inversion. Therefore, for each profile, you have track where is the inversion layer. Since the paper already documents that these layers can vary on different dates, fixing the pressure levels is not appropriate. 2) The ERA data is not showing any resemblance of that of observed in satellite data. I am not sure therefore the discussion on ERA data is required. Recommendation: Revision

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Interactive comment on Atmos. Chem. Phys. Discuss., 15, 35277, 2015.

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