

## ***Interactive comment on “New image measurements of the gravity wave propagation characteristics from a low latitude Indian station” by M. Sivakandan et al.***

**Anonymous Referee #2**

Received and published: 28 August 2015

The manuscript presents some new observations of mesospheric gravity waves using an all-sky imager located in Southern India. As mentioned in the text, numerous similar observations have been done in the past 30 years. Though measurements from this part of the world are scarce, this data set doesn't bring anything really new. Furthermore, the amount of data is very small since it encompasses only a 2-month period during 3 years, due to limited sky conditions. This manuscript appears more like an observation report than a full scientific paper. The analysis technique is also rudimentary. I would suggest to the authors to read papers like Garcia et al., 1997, Cobble et al., 1998, or Tang et al., 2002; 2005 for improved analysis methods. I don't think

C2774

this work should be published as it is. Nevertheless, the complete data set might be of some interest after a full investigation. Both mesospheric emissions (OH and OI) observed with the all-sky imager should be analyzed. Even with poor sky conditions, the other months should also be processed. The possible correlation between convective regions and GW propagation could then be confirmed or not.

Minor comments: I don't understand why you crop the images to 90deg if you also unwarped them to correct for lens distortion. This rather small field of view probably affects the range of horizontal wavelengths you can measure. You also need to provide errors on your measurements.

P.2: l. 6: events, the grammar should be improved as well l. 9: occurrence instead of occasions l. 10: was a possible source for the... l. 13-15: not clear l. 20-21: "to observe the GW signatures" or "to measure the GW parameters" l. 21: The primary advantage of the imaging technique... l. 22: remove "altitude" p.3: l. 3: For about a decade... (it's more about 3 decades!) l. 15: during summer l. 29: the said period p.4: l. 6: remove "clear sky" l. 7: a field of view (FOV) of 180... l. 11-12: "Yoda English" l. 15: during the operations. l. 16: we bin the images to 2x2 pixels... l. 19: current exposure times are as follow: 15s... l. 21: Further details about the NAI are given in Taori et al., 2013 l. 26: unwarped p.5: l. 1: we used a median filter. l. 10: to enhance the wave fronts p.6: l. 10: a phase velocity p.7: l. 6: Most of... l. 20: (b) average of the daily mean... l. 21: Remove last sentence l. 25: missing something! maybe "propagation angle in the month of April"? l. 28: "propagating towards Northwest" or "propagating northwestward" p.8: l. 3-4: southeast part of the map p.9: l.4: very remote possibility

---

Interactive comment on Atmos. Meas. Tech. Discuss., 8, 8231, 2015.

C2775