

Dear Referee,

Thank you very much for your valuable suggestions and comments. We incorporated the resolutions of comments each point by point.

General comments: The approach here is flawed in that the sensor being used (Oceansat-II) is incapable of resolving the winds in the core of most tropical cyclones and thus any attempt at retrieving the pressure field will result in severe under-estimation of both the MSLP and the tight pressure gradients without substantial preprocessing of the data. The authors note these deficiencies but I believe that additional work needs to be done to address the shortcomings of the approach. There a number of grammatical errors that I noted that should be corrected if the paper is re-submitted. Is it Oceansat or OceanSat?

Authors Response: Thank you very much for your observations in the manuscript, some additional work has been carried out do address the pressure difference in center of the cyclone, which work was presented in the revised manuscript. Grammatical errors will be corrected as you mentioned in the revised manuscript. Whatever we used that sensor is OCEANSAT, we corrected this one also in respective place.

Abstract: "Pressure drop as per IMD reports were observed to be higher than model..." Much higher in the cases of both Phailin (> 50 hPa!) and Lehar (> 20 hPa).

"However, the model retrieved pressure fields compare well against buoy measurements" This implies that buoy observations are acting as ground truth including the TC inner core region and thus the model does well. This is very misleading. The authors do not note where the buoys are located relative to the TC center. Looking over figure 5 it looks like none of these observations are near the TC inner core?

Authors Response: We mentioned the buoy locations in the figure 1 in tabular form. As you mentioned, there is no moored buoys are available near to the cyclone center during these three cyclone event times. To address this, we compared those locations with the WCMWF re-analysis pressure values. These values are well matching with the estimated values.

Paper Body: Pages 2 section 5 - "Identified more low pressure ..." (grammar)

Authors Response: Modified accordingly

Page 2 section 10 - "4 dyas life span" - (spelling)

Authors Response: Corrected

Page 2 section 30 - "OSCAT winds compare favorably against ECMWF and NCEP". Comparing "observations" to model fields notwithstanding there is plenty of literature that looks at the particular challenges of using scatterometer winds in tropical cyclones. The authors may be able

to use the approach of Stiles et al (2014) to improve the quality of the OSCAT data in order to retrieve winds > 25 m/s.

Authors Response: What you said is correct, but in this study we are not retrieving the winds, we focused on estimations of pressure fields from the available scatterometer wind data. This is very good point for further studies to improve the quality of the estimations of pressure as well as the wind fields.

Page 3 section 5: "Phailin cyclone ... eye pressure less than 1000 hPa". It is confusing in this discussion of the intensity whether the authors are referring to IMD pressures or the model pressures?

Authors Response: Here we are referring the model estimated pressure not IMD

Page 3 section 5: No discussion here regarding the asymmetries in the pressure fields in Figure 2? Is this an issue with processing of the ambiguities?

Authors Response: Thank you very much for the observation, there is no processing ambiguities. We are not mentioned any asymmetries due to those are different cyclones.

Page 3 section 15: "Buoy measurements compare favorably to model estimates". This is misleading as it suggests that while IMD estimates are a poor match to the model in-situ buoy observations verify the model is skillful. There is no discussion here to note that the buoys are not located near the TC center. Plots showing the buoy locations relative to the TC at the time of the OSCAT pass would clarify this.

Authors Response: Modified accordingly and clarified in revised manuscript.

The plots in figure 3 clearly show the under-estimation of pressure of the model compared to the IMD estimates. So it is not clear to me how this model would be applied? Certainly it would not be used to estimate intensity?

Authors Response: Here we compared the Sea Level Pressure values with the IMD pressure values, in revised manuscript we added ECMWF pressure values also.

Figures 5 and table 1: Again it needs to be made clear what exactly is being compared here lest the readers come away with conclusion that the model can accurately estimate the MSLP of even the most intense TCs.

Authors Response: Modified accordingly in revised manuscript.