Sir,

I thank you for the meticulous review of the paper and for your suggestions.

The Hilbert Huang Transform (HHT) is an empirically based data- analysis method proposed Norden E. Huang in 1996. HHT can be used for processing non-stationary and nonlinear signals. Empirical Mode Decomposition (EMD) is direct, adaptive and intuitive, with a posteriori-defined basis, based on the simple assumption that any data consists of simple intrinsic modes of oscillations. Each intrinsic mode function may be, nonlinear or linear, represents a simple oscillation, which will have the same number of extreme and zero-crossings. The oscillation will also be symmetric with respect to the "local mean". At any given time, and the data may have many different coexisting modes of oscillation, one superimposing on the others. Each oscillatory mode is represented by an Intrinsic Mode Functions (IMF) with the following definition.
a) In the whole data base, the number of extrema, and the number of zero crossings must either equal or differ most by one, and
b) At any point, the mean value of the envelope defined by the local maxima and the envelope defined by the local minima is zero.

A typical value for SD is around 0.21 to 0.3. We have taken the value as 0.21 as it is minimum value . But we have tried for other different values also for trial and there was no significant difference in the IMF's.

.r" format refers to the MST Radar RAW data that is stored in the specific format at National Atmospheric Research Laboratory. Similarly ".mat" format refers to the matrix format that is obtained after converting the raw data to". mat" format so that it can be used for processing using MATLAB. The .mat data is in MATRIX form.

τ_j refers to the universal threshold value. $\Gamma[\tau j]$ is a thresholding function, and τj is the threshold parameter, the threshold can be determined in different ways. Donoho and Johnstone proposed a universal threshold, τ_j for removing noise [13-14]. N is the data size of the Matrix (nxn). As an alternative to minimax threshold Donoho and Johnstone (1994) proposed the universal threshold $\lambda univ = \hat{\sigma} \sqrt{2 \log N}$, where N is the number of pixels and $\hat{\sigma}$ is estimated standard deviation of the noise for an image.

We have initially used three point moving average method to detect the true peak of the echoes and further used the adaptive moments estimation method (Anandan, V. K., et al. "An adaptive moments estimation technique applied to MST radar echoes." Journal of Atmospheric and Oceanic Technology 22.4 (2005): 396-408) for true peak identification and detection. We further compared our results with the ADP (Atmospheric Data Processor) software that is already in use at NARL, India.

We verified for various sets of MST data and validated the results and observed that Doppler estimation using HHT is regarded as more accurate that FFT. As all the results cannot be

accommodated in this paper , we have shown the results for two sets of data only. But still we are in the process of validating the results with GPS Radiosonde data that is assumed to be more precise. Presently this work is being carried out.

The amount of resolution depends on the clarity of enabling the algorithm to identify and detect the true peak. It was observed that the developed algorithm is intelligent enough to do the job of identifying the true peak and this was tested for different range bins and a paper was presented at International Union of Radio Science (URSI), 3rd URSI Regional Conference on Radio Science,1 - 4 March 2017 TIRUPATI, India.

Regarding the minor modifications suggested such as echoes, kms etc I would modify them suitably.

Thank You Sir.