

1 **Responses to the comments of Referee #2:**

2 *Referee #2:*

3 *This paper proposed a wavelet-based approach to evaluate the advantage and disadvantages of a*
4 *typical deep learning model, convolutional neural network, in air quality forecasting (AQF). They*
5 *used wavelet transform to identify the causes of the poor performances of CNN and find that when*
6 *fine wavelet modes are relatively weak or coarse wavelet modes are strong, CNN forecasts will be*
7 *less accurate. This finding is very important for the community to understand the drawbacks of*
8 *deep learning and be aware of them when using it together with conventional numeric air quality*
9 *models. The paper has a clear design and the proposed idea and the subsequent experiments are*
10 *presented very well.*

11

12 **Response:**

13 We would like to thank the reviewer for his/her time and effort for reviewing this manuscript.