This paper presented a method to detect wind turbine clutter (WTC) and validated the method through comparisons to known wind turbine locations. Moreover, the paper investigated the impact of WTC on radar data quality with a focus on polarimetric variables. The study found that polarimetric variables are more sensitive to WTC contamination and the area of impact from a wind farm is larger for the polarimetric variables compared to that for reflectivity and Doppler velocity. Additionally, the authors quantified the impact of beam blockage from wind turbines and found they induced a significant bias in reflectivity, and, as a result, strongly recommended wind farms to not be constructed within 5 km of weather radars. These findings contribute to the ongoing research on WTC mitigation and are presented clearly in the manuscript. As a result, I recommend this paper to be accepted for publication with some minor revisions.

Specific Comments:

1. In the detection method, the three central coefficients (around zero Doppler velocity) in combination with NCP to compute CR (line 98). However, later on in the paper, a new product called clutter power (CCORH) is shown in Figs 4-6. What is the relationship between CCORH and the clutter power used in the detection method? Looking at the figures, it is easy for a reader to use CCORH as a substitute for clutter power used to determine CR, and it doesn't make sense how you can get the CR curve shown in the right panel of Fig.5 with the two curves shown in the left panel of Fig. 5.
2. The sentence "But the spread is large indicating the wind turbine clutter signal most likely co-exists with a strong static clutter signal from the WT tower, which is decreasing with increasing rotation speed (Figure 6)" needs further clarification. I do not see a decreasing trend in CCORH in Figure 6. Also, why does the large spread in CR indicates the co-existence of WTC signal with a strong static clutter signal?
3. For the data set shown in Fig. 4, how often was weather signals overlapping with the WTC signals? It would be interesting to break down the detection performance for cases when there is no weather versus when weather is overlapping with the WTC.

Technical Corrections:

1. Line 56, “rangebins” should be “range bins”. Please check the remainder of the manuscript for similar corrections.
2. Line 96, insert comma after Doppler-spectra.
3. Line 134: I would reword the sentence as “A data set comprising of at least one year of the typical meteorological situations would provide a more reliable validation.”
4. Line 142: CCORH, CCORV, TH, TV, URHOHV, and UDR needs to be defined here when they first appeared in the manuscript.
5. Line 143: “3 by 3 rangebin area” should be “3-by-3 range bin area”.
6. Line 145: “ration” should be “ratio”.
7. Line 156: “40% to 10%” should be “10% to 40%”
8. Line 181: “WEA” need to be defined.
9. Caption of Figure 8: “Black crosses” should be “Red crosses”, “data based” should be “database”, “rangebins” should be “range bins”.
10. Line 191: “WEA detection algorithm” should be “WTC detection algorithm”?
11. Line 209: insert comma after “In Figures 10 and 12”.
12. Caption of Figure 12: “TH” was used previously to refer to reflectivity factor in dBZ. Here “Zh” is used. Please choose one designation and stay consistent.
13. Line 267: ZH is used here for reflectivity.
14. Figure 14: “WEA” and “NoWEA” are used in the legends. I think being consistent and using “WTC” and “NoWTC” would be appropriate.
15. Line 201, add comma after “-30 dB”