Specific comments

1. Please rewrite the whole abstract.
2. Haze definition is not accurate. It is not necessary to provide definition here since they can be found from text books. It is suggested to rewrite the first paragraph in section 1. It will be more meaningful to address the importance of haze study in this region in the first paragraph. Please use more professional terminology words. For example, some words like “powder” and “turbidity”, “adopt” read strange. Please check the similar problems in other places in the paper.
3. Please add a space before all reference citations throughout the manuscript.
4. Lines 64-65, criteria of humidity of 90% is not accurate for haze day identification. It is suggested to remove this sentence.
5. Line 76: change the subtitle to “Descriptions of models and simulation configurations”
6. Lines 77-78, please rewrite this sentence.
7. It should be CMAQ v.5.0.2 not CMAQ v5.0. Please provide reference citation for CMAQ and for WRF v3.3.
8. Lines 78-79, write this sentence. Please provide a little bit more details about NCEP reanalysis data which is used as the initial and boundary conditions for WRF simulations.
9. Lines 84-86, split into two sentences.
10. Line 88: Change to “Setting of the simulation domains”
11. Figure 1: add a) and b) in the left and right panels. (say put them at the left top inside the panels) .
12. Line 93, change “lines” to “boxes”, add “domains” after each “model”.
13. Add a space before all abbreviation word. Say, “Zhongshan(ZS)” 🡪 “Zhongshan (SZ)”. Please correct similar problems for all other places.
14. Lines 104-105. Please provide an appropriate reference rather than a website link here.
15. Figure 2, all the label numbers are too small, please replot this figure.
16. In Section 2.1, what gas-phase chemical mechanism and what aerosol module did you use in your simulations.
17. Line 127, change the subtitle to “Contributions of emissions from different regions” .
18. Line 145, add a space before “(see Figure 1)”.
19. Line 149: change “the variation of centration ” to “the difference of concentrations”. Please define Cctrl and Cx,0  first and then Cx and Px.
20. L155: Change to “ A summary of sensitivity studies”.
21. Figure 3: The numbers on X- and Y-axis labels are too small. Please replot Figure 3.
22. L160: change “Control test results” to “Evaluation of meteorological and air quality model simulations”
23. L161: change “simulation results” to “simulations”
24. L169” :24-hour pressure variation(c) -> “surface pressure (c)”
25. Lines 172-174. Please rewrite them. No need using “:” here.
26. L174, Add a space between “Zhongshan” and “(113.35)”. Delete a space after o. Please correct similar problems in other places too.
27. Figure 4: delete “concentration” from y-label of top panel.
28. Lines 244-245, change “From the table it can be found” to “It is found from Table 3”.
29. Figure 5: The numbers of all color-bars are too small.
30. Lines 254-256: The description of Figure 5 is very confused. Please rewrite it.
31. Line 283: Please add a space before “(see Figure 6). Again, please correct all the similar problems in other places throughout the paper.
32. Lines 306-308: Change to “Percentage contributions of the emission sources from different regions to the simulated PM2.5 in Zhongshan under different weather conditions (a …)”.
33. What is difference between Figure 6 and Table 4? If they show the same information for PM2.5, please delete them from Table 4.
34. Table 4, please reorganize the table structure in a better way
35. Line 320: change “As is” to “As”.
36. Lines 320-321, delete “of Zhongshan”.
37. Lines 333-335: change to “Evaluation of simulated PM2.5 (ug m-3) and 10-m wind fields (need scale of wind vectors in the plots) at a) 08:00 BJT (BeiJng Time), b) 17:00 BJT; c)23:00 BT on January 8, and d) 17:00 BJT on January 9, 2014 “.
38. Line 351, change to “Impact of emission controls in different regions”
39. Line 376: Change to “Percentage change of simulated PM2.5 concentration and visibility when local emissions are turned off in Zhongshan”
40. In Table 5, delete “decrement” and “increment”.
41. Please rewrite the conclusion part.