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# ***Interactive comment on “Characterization of minerals in air dust particles in the state of Tamilnadu, India through ftir spectroscopy” by R. Senthil Kumar and P. Rajkumar***

**R. Senthil Kumar and P. Rajkumar**

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Respected Sir, Thank you for your comments.

I am happy to inform you that I have rectified the mistakes point out by the referee. The queries and answers are given bellow. I have uploaded the rectified manuscript also.

Title: Characterization of Minerals in Air Dust Particles in the State of Tamilnadu, India through FTIR Spectroscopy.

Authors: R. Senthil kumar and P.Rajkumar MS No.: acp-2013-329

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1. It is found some grammatical errors in the manuscript such as presents, were die, is exhibit, sample were.

\*\*\* Answer: The mistakes are corrected in page numbers 1, 7, 10.

2. The author should give deposition time of the collected samples at 20ft in three different areas.

\*\*\* Answer: The deposition time of the collected samples at 20ft is 20 days to 25 days.

3. In Results and Discussion, Fig.2 is not quoted in the description of the manuscript.

\*\*\* Answer: The figure number 2 is quoted in discussion part.

4. In Table 2 whether the third column is total number of samples or sample ID.

\*\*\* Answer: In Table 2, the third column is total number of samples only it is not sample ID.

5. The author has stated that Quartz is common and invariably presents in all the samples. But in column three of Table 2 indicates Quartz appears only 9 samples (at 101, 90, 104, 45, 55, 13, 9, 1, 7). Also, Imogolite is present nearly 50 samples, whether it is 50th number or totally 50 samples. Similarly, Magnetite-60 samples, Gibbsite- 16 samples, Vermiculite is present in nearly 90 samples out of 111, but it shows only two samples (89, 1), Sepiolite, Imogolite, Hemalite also quoted some samples only.

\*\*\* Answer: Yes, Quartz is presents in all the samples. In Quartz the frequency 468 is present totally 101 samples out of 111 samples, the frequency 693 is present totally 90 samples, the frequency 777 is present totally 104 samples, the frequency 800 is present totally 45 samples, the frequency 1077 is present totally 55 samples, the frequency 1090 is present totally 13 samples, the frequency 1144 is present totally 9 samples, the frequency 1861 is present 1 sample, the frequency 1872 is present totally 7 samples. \*\*\*Imogolite is present totally 50 samples, it is not 50th number of sample.

\*\*\* Magnetite is present totally 60 samples, it is not 60th number of sample. \*\*\*Gibbsite

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is present totally 16 samples, it is not 16th number of sample. \*\*\*Vermiculite is present in nearly 90 samples out of 111. But it shows the frequency 670 is present totally 89 samples, it is not 89th number of sample, the frequency 811 is present only one sample, it is not 1st number of sample. \*\*\* The minerals Sepiolite, Imogolite, Hemalite are also the same explanation.

6. In column 3 of Table 2, the sample ID's should be arranged in ascending order.

\*\*\* Answer: In Table 2 the third column is total number of samples only it is not sample ID. So it could not arrange in ascending order. \*\*\*Here frequency 433 is present totally 63 samples, frequency 938 is present totally 3 samples, frequency 1623 is present totally 29 samples, frequency 3623 is present totally 8 samples, frequency 3695 is present totally 68 samples, frequency 3735 is present totally 8 samples.

7. In section 3.1, the statement “The quartz is present in almost all samples”, is repeated. Similarly some statements are also repeated in the manuscript.

\*\*\* Answer: The mistakes are corrected.

8. Author has assigned the vibrations such as 2516 cm<sup>-1</sup>, 2570 cm<sup>-1</sup>, 2873 cm<sup>-1</sup> and 2982 cm<sup>-1</sup> due to OH stretching mode vibration. Whether the peaks are correspond to OH or Calcite?

\*\*\* Answer: In generally these peaks are assigned for Calcite only. In some cases these peaks are assigned for OH stretching mode vibration. The references are given for those peaks.

9. In section 3.14, Goethite (FeOH), it is to be corrected as FeOOH.

\*\*\* Answer: The mistake is corrected.

Thank you

Please also note the supplement to this comment:

<http://www.atmos-chem-phys-discuss.net/13/C10441/2013/acpd-13-C10441-2013-supplement.pdf>

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Interactive comment on Atmos. Chem. Phys. Discuss., 13, 22221, 2013.

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