

## ***Interactive comment on “A 12 year observation of water-soluble inorganic ions in TSP aerosols collected at a remote marine location in the western North Pacific: an outflow region of Asian dust” by S. K. R. Boreddy and K. Kawamura***

### **Anonymous Referee #1**

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This is an interesting manuscript presenting 12 years of inorganics ions (TSP) measured at the remote location of Chichijima Island (western North Pacific) which I consider as suitable for publication in ACP after minor revisions.

Main comments:

1) A comparison with similar measurements performed at other remote locations is missing. I suggest to add a short review of previous studies presenting inorganic ions aerosol measurements performed at other remote sites in order to compare them with

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the values reported in this manuscript. This kind of comparison could be interesting especially for the ratios (i.e.  $MSA/nss-SO_4^{2-}$ );

2) Some Figures need to be re-edited: y-axis missing in Fig. 2 and 3; Fig. 5:  $S^+/S^-$  is presented in the Figure 5, but  $S^-/S^+$  is described in the text; Figure 6h;

3) Paragraph 3.8. : Here the possible relationship between  $MSA^-$  and  $nss-Ca^{2+}$  is discussed comparing monthly averages. Are there any intense Ca episodes during the study period which can be related with variations in MSA? For example Ca episodes of few days accompanied by statistically significant variations in MSA?. This could help in identifying any  $MSA-nssCa^{2+}$  relationship.

4) Tables 1 and 2. Are the presented differences statistically significant between each pair of variables (seasons or year)? Please, clarify which differences are statistically significant.

5) The presence of any trend should be demonstrated by applying tests such as Mann-Kendall (for annual averages) or Theil-Sen (also for monthly averages).

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