

Atmos. Meas. Tech. Discuss., referee comment RC1  
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## Comment on amt-2022-191

Anonymous Referee #1

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Referee comment on "Monitoring greenhouse gases (GHGs) in China: status and perspective" by Youwen Sun et al., Atmos. Meas. Tech. Discuss.,  
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This manuscript presents a deep and extensive review of the research and developments that have emerged during approximately the last few decades with respect to 'Greenhouse gases (GHGs) monitoring in China'. All topics considered are appropriate, timely and well targeted. The document addresses relevant scientific questions; its content represents a successful review of the key elements of the subject under consideration. The manuscript correctly presents the review of ideas, tools and data. The analysis carried out clearly supports the interpretations and conclusions. The number and quality of the references, in general, are adequate and reflect well the review carried out. This study will improve current understanding with respect to what we have done and what we have to do in the field of GHGs monitoring in China. In general, the topic is interesting and fits well in the scope of AMT. I recommend for publication with some minor comments and additions that I have listed below.

### General comments

- Although the number and quality of the references are adequate and reflect well the review carried out, some recent studies regarding GHGs monitoring in China are missing. These include [doi:10.3390/rs14143334](https://doi.org/10.3390/rs14143334) for on-orbit calibration of TanSat, etc. I cannot list all of them, but the more comprehensive the article, the more readers will pay attention to it.
- The authors should check if Fig.2 includes geolocations of all sites coordinated by NOAA and WMO and Fig 3 contains all FTIR sites coordinated by TCCON, NDACC-IRWG, and COCCON.
- What's the dashed curves and line in Fig.5 indicating for? The authors should explain in the caption. The authors should check if all acronyms in Table 1 are already properly defined.

Technical corrections:

- Page 2, Line 15 (P2, L15): "reduction energy consumption" should be "energy consumption of reduction".
- P2, L27: "China is committed to achieve" should be "China is committed to achieving".
- P3, L2: "In addition to continue" should be "In addition to continuing".
- P6, L16: "maintenances" should be "maintenance".
- P8, L1: "put a large effort in" should be "put a large effort into".
- P9, L20: "more sensitive" should be "more sensitivity".
- P9, L31: "different spatiotemporal scale" should be "different spatiotemporal scales".
- P10, L21: "use active" should be "used active".
- P11, L32: "are committed to provide" should be "are committed to providing".
- P12, L3: "is that how" should be "is how".
- P13, L4: "is committed to achieve" should be "is committed to achieving".
- P13, L20: "challenges for" should be "challenges of".
- P14, L13: "data sharing platform" should be "data sharing platforms".
- P14, L26: "promote the implement of" should be "promote the implementation of".
- For consistency, "Det" in Fig.4 should be "Det."