

Ann. Geophys. Discuss., referee comment RC2
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Comment on angeo-2021-5

Anonymous Referee #2

Referee comment on "Statistical study of the main phase of different classes of geomagnetic storms on BDS B1 frequency standard point positioning in China and its surrounding area" by Junchen Xue et al., Ann. Geophys. Discuss., <https://doi.org/10.5194/angeo-2021-5-RC2>, 2021

The authors assess the positioning accuracy of BDS using B1 frequency and Standard Point Positioning under the effect of a variety of geomagnetic storms. They provide a nice analysis however the study is incomplete in many ways and needs to be improved before the publication in Annales Geophysicae. First, the motivation of the paper is not clear. Does it target single-frequency users of GNSS and try to give lessons for the future use of the system? Does it aim to compare BDS B1 frequency results with the L1 SPP frequency of the GPS? Or, does it aim to compare the findings of the study with those of the BDS studies which were previously published? Neither a literature review nor comparisons of results to previous studies are provided relating to the above questions. Furthermore, the motivation of the study is not clearly stated in the abstract and in the introduction. Then, the sampling strategy is not discussed well in the beginning and the weaknesses related to those are stated in the conclusion! Was that possible to adopt a better sampling strategy from the rich IGS network!? In addition, the authors determined that some days with strong storms do not affect positioning accuracy but the authors do not refer to literature and include discussion for possible underlying facts. These are serious weaknesses of the paper and need to be improved for the next submission. Other detailed comments are given in the reviewer's attachment and need to be carefully answered and revised by the authors.

Please also note the supplement to this comment:

<https://angeo.copernicus.org/preprints/angeo-2021-5/angeo-2021-5-RC2-supplement.pdf>