GID

Interactive comment

Interactive comment on "Saint Petersburg magnetic observatory: from Voeikovo subdivision to INTERMAGNET certification" *by* Roman Sidorov et al.

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This paper gives a good example how to renew an observatory starting from the beginning and shows step by step the whole procedure. This work is nearly the same as the foundation of a new observatory. It shows which are the necessary actions to be done inside and around the location of instrument huts and on all the territory of the observatory. It gives a good example how to build an azimuth reference mark for absolute observations and and how to determine its direction. The paper can be a useful material for those people who do the same job or builds and installs a new observatory. The paper is good for publication in GI.

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[Discussion paper]

I have some comments and questions to the authors.

- In 2.2 mentioned former heating system used copper wires. Was it dismounted on only renewed? If it is still in use a special attention has to be given to its structure because temperature differences at the connections of the copper tubes can generate thermal currents and consequently slowly changing magnetic field. This field gives an addition to the geomagnetic field. If warm water is used for heating it is better solution to apply plastic tubes.

- In 2.3 the power system with underground cables is mentioned. It is an important issue to use short cables if possible and it is useful to apply overvoltage protection against induction peaks caused by lightnings. - The same is valid for data lines.

- Why you did not used UPS instead of LER for data analysis? It is much closer to SPG in longitude.

- For raw instrument check the data analysis as described is good but more precise data can only be obtained only if another recording instrument is installed at the same place. Will it be possible in the future?

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Discussion paper