A review of the paper EGUsphere-2024-87

Enabling In-Situ Magnetic Interference Mitigation Algorithm Validation via a Laboratory-Generated Dataset

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The magnetic cleanliness program is significant to achieve scientific objectives related to magnetic field measurements. It should be noted that magnetic tests are required to suppress stray magnetic fields. Furthermore, any gradiometric approach and magnetometers on long booms would guarantee magnetic field measurement without magnetic interference. However, the cost involved in performing such magnetic tests and adopting a long boom is likely to be high. To reduce the cost, therefore, recent missions adopt shorter booms. Hence, the authors generated an open-source dataset of stray magnetic field data, which is to be used to develop and validate magnetic interference mitigation algorithm. The dataset contains temporal variations of magnetic field corresponding to near-DC trends, synthesized interference, and pseudo-geophysical signals.

The significance of the open-source dataset of stray magnetic field data is highly evaluated.

General Comments

The significance of the present open-source dataset is highly evaluated. However, there are a few points to be reconfirmed and clarified. I therefore require revision.

Specific Comments

Table 2

Motors 1 and 2 seem to correspond to reaction wheels whose directions are different. However, spacecraft may have more reaction wheels. Furthermore, their rotation rates and directions may change depending on attitude of spacecraft. That is, these interference patterns may be too simple, and *Inter1* to *Inter8* may not be sufficient.

Figure 5

It seems that the figure caption for Figure 5 is insufficient. For example, (a)–(l) are not mentioned at all. Temporal variations of spectra are shown, but a period for which frequency analyses are carried out is not defined.