

General Comments

This is an informative paper discussing the methods, expectations, and value of the data products provided by participating observatories within the INTERMAGNET network. The paper recognizes the merit of the work that is done by the Data Checking Task Team while outlining the state of the standards and methods that data checkers and observatories should consider while providing data.

The scientific approach and outlined methods are valid. The paper is organized in a well-structured and balanced way that discusses related work while touching upon the scientific and societal importance of INTERMAGNET's high-quality data products.

It contains a good update and summary of the publicly available tools and software that have been made available to be able to produce and view INTERMAGNET data products.

Specific Comments

It may be helpful to describe more the equation for F_v or provide a citation (Line 129). I think it refers to F that is formed by X , Y , and Z from the vector magnetometer. Following the equation for F_v , something could be said such as,

“where x , y , and z are recorded by the observatory's vector magnetometer, and F_s , which is recorded by an absolute scalar field magnetometer like a proton or Overhauser magnetometer. “

From Lines 108 and 109, I do not know if those are required or optional elements. Maybe it could be mentioned if they are optional, as well as what would be in the country read me file.

May be helpful to include citations around Line 121 regarding K values or description of the term.

The paper has several enlightening statements such as that found in line 95 (related to the incredibly beneficial exchange of ideas) or line 39 (encouraging use of backup data when available), and lines 60-70 which explain the value of baseline plots and how they may be affected. It may be a nice place to further elaborate upon, or cite where to find, the criteria of what is considered the best, and/ or what is acceptable, when analysing the differences between baselines and data.

Technical Corrections

- 33 Suggestion for sentence rearrangement:
“Their low latency offers rapid availability, however they are not yet fully calibrated..”
- 33 Suggestion to add ‘purposes’ after ‘operational monitoring’
- 42 Capitalization of the word ‘provided’
- 43 Replace the comma after the word ‘recording’ by a period.
- 74 Remove extra parenthesis in “..the Technical Manual ((St-Louis et al., 2020),”

- 80 Capitalization of 'data' in "Definitive data"
- 81 Remove 's' from "volunteers" such that it reads "volunteer experts" or switch the words around: "expert volunteers".
- 86 Remove the space between 'but also includes' and the colon. The sentence could also be written, "The review process extends beyond analyzing the time series of geomagnetic field components, and also includes:
- or
- "The review process extends beyond the analysis of the time series of geomagnetic field components, and also includes."
- or
- "The review process extends beyond analyzing the time series of geomagnetic field components. It also includes: "
- 126 Remove the 's' from the word 'appears'.
- 130 Capitalize the 'o' in 'overhauser magntoemter' and check spelling of magnetometer.
- 130 Suggestion for sentence rearrangement:
"In addition, visual comparisons of the time series of a given observatory with those from neighboring observatories often provide valuable insights."
- 136 Remove comma after link ("..._dois,")
- 137 Suggestion for sentence rearrangement:
"Dating back to 1991, it contains the most recent data updates for the entire INTERMAGNET network, along with time series, baselines, K indices,..."
- 140 Replace 'has' with 'have' ("...various software tools have been developed...")
- 143 Remove the space between the link and the comma ("...html ,")
- 181 Suggestion of adding the word 'to' between 'leading' and 'the', and remove the word 'a' between 'of' and 'condensed', i.e.:
"...leading to the elaboration of condensed, standardised guidelines.."
Or, " Volunteers from the Data Checking Task Team (DCTT) are adopting improved workflows which lead the elaboration of condensed, standardised guidelines.."