Geoscientific Instrumentation Methods and Data Systems Discussions

Geosci. Instrum. Method. Data Syst. Discuss., referee comment RC2
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Comment on gi-2022-5

David Miles (Referee)

Referee comment on "Single-event effect testing of the PNI RM3100 magnetometer for space applications" by Mark B. Moldwin et al., Geosci. Instrum. Method. Data Syst. Discuss., https://doi.org/10.5194/gi-2022-5-RC2, 2022

The authors present the results of single event testing of the COTS PNI RM3100 magnetometer as a significant step towards the qualification of the device for future space missions. The tested devices did not experience any destructive events and experienced only rare functional interrupts that could be recovered by power cycling.

The manuscript is concise, well written, and generally compelling. I suggest the authors consider two minor revisions listed below; however, the manuscript is suitable for publication in Geoscientific Instrumentation, Methods and Data Systems.

1) The authors note that single event functional interrupts (SEFIs) were observed but rare. Could you quantify how frequently these occur?

2) The authors note, quite reasonably, that the magnetic readings inside the cyclotron facility are inherently noise and unlikely to be meaningful. Was any attempt made to assess if there was any residual damage from the SEFI events from the testing? For example, did the two tested units perform within manufacturer specifications after testing?