

Interactive comment on “The origin of noise and magnetic hysteresis in crystalline permalloy ring-core fluxgate sensors” by B. B. Narod

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The two referees' reports contain very similar content. Thus these replies contain substantial duplication.

1-Page 323, line 20. Figure 3 is mentioned before Figure 2. It would be more appropriate to name figures in the same order they are mentioned.

Agreed. The Figures shall be reordered.

2-Page 323, line 20. When it is said that “Figure 3 shows a similar probability density function for a collection of 195 “6-81” ring cores (12 ?m), a function that. . .”, I think it could be useful to indicate if these ring cores from figure 3 are “as received” or “heat

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treated”, because the comparison versus figure1 ring cores results.

Agreed. The text shall be modified accordingly to: “... a collection of 195 as-received “6-81” ring cores ...”

3-Page 326, line 24, where it is said that “ The picture presented above is not useful for. . .” I would substitute by “ Figure 5 is not useful for. . .”

Agreed. The text shall be modified accordingly.

4-Page 327, line 11. Figure 14 is mentioned just after figure 6. As I said before, It would be more appropriate to name figures in the same order they are mentioned.

Agreed. After consideration of this problem I believe that Figure 14 is best left as and where it is, to show near the end of the paper. To deal with the numbering issue I propose to change the parenthetic reference to Figure 14 from “(Fig. 14)” to “(see Section 7 below)”.

5-Page 329, line 11. It is clear that figure 9 is from another article and authors (Coi?son et al. (2009)), but it would be appropriate to ask for permission to use and publish their figure.

Agreed. Permissions have been obtained for the present revision and all prior versions of this manuscript that were submitted but did not go to publication. A copy of the present permission has been forwarded to the EGU editorial office. The words “Reproduced with permission of the copyright owner.” shall be added to the caption.

6-Page 331, line 12. I think it would be necessary a very briefly description of the method used to measure B-H curves.

Agreed. The text shall be modified accordingly, by adding the following:

“B-H curves were collected using primary and secondary windings of 10 turns each. Each core and a current sense resistor for H were driven by a triangular current source peaked at ± 110 A/m. For B secondary signals passed to an operational amplifier

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configured as a high impedance input integrator.

Interactive comment on Geosci. Instrum. Method. Data Syst. Discuss., 4, 319, 2014.

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