

Interactive comment on “Low-Noise Permalloy Ring-Cores for Fluxgate Magnetometers” by David M. Miles et al.

Anonymous Referee #2

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The manuscript is devoted to reproduction and detailed documenting of the manufacturing process of ring-core fluxgate sensors based on Ni81.3-Mo6-Fe soft magnetic alloy. This low-noise material was successfully used as a sensor magnetic core in many science-grade fluxgate magnetometers with excellent offset stability and noise level. The renewed techniques and developed equipment is a good base for further experiments with soft magnetic materials for achieving the goal of creating extremely low-noise fluxgate sensors. The paper is well prepared and easy to understand. The authors tried to reproduce the sensor developed by Gordon et al. (1968) and produced by Infinetics Inc. as a S1000 ring-cores till 1996. However, Gordon et al. (1968) paper inspired other research groups (for instance, in Germany and former USSR) to experiment with similar magnetic alloys and they reported even better noise level of

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fluxgate sensors with smaller cores. More comments and questions are given in the supplement file.

Please also note the supplement to this comment:

<https://www.geosci-instrum-method-data-syst-discuss.net/gi-2019-15/gi-2019-15-RC2-supplement.pdf>

Interactive comment on Geosci. Instrum. Method. Data Syst. Discuss.,
<https://doi.org/10.5194/gi-2019-15>, 2019.

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