

## Author's response to the comments on the manuscript:

# Estimation of the total magnetization direction of approximately spherical bodies

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We would like to thank all Referees for their constructive review. We have not only presented our comments and responses to all their recommendations, but we also have performed several new tests on synthetic data that we hope will answer all of the points raised by the Referees. The results, figures, and source codes for these tests are available online through the code hosting website Github at <https://github.com/birocoles/Total-magnetization-of-spherical-bodies>. Links to each specific synthetic test are provided in the relevant comments.

In the revised version of our manuscript, we addressed all specific recommendations given by the Referee J. Ebbing for rephrasing and shortening the abstract and introduction. These modifications are concentrated on the pages 2 and 3 of the manuscript. We have also addressed the recommendation given by the Anonymous Referee and added more references in the introduction.

On behalf of all authors