

Interactive comment on “Quantizing Earth surface deformations” by C. O. Bowin et al.

Anonymous Referee #1

Received and published: 14 April 2015

- Does the paper address relevant scientific questions within the scope of SE?

Yes: The question at hand (the driving forces of solid Earth deformation) is of potential interest within the scope of SE.

- Does the paper present novel concepts, ideas, tools, or data?

No: The concepts presented in the manuscript are not new.

- Are substantial conclusions reached?

No: The main conclusion reached is that further work is needed to quantify the driving forces of solid Earth deformation.

- Are the scientific methods and assumptions valid and clearly outlined?

No: Assumptions are not clearly spelled out and robustly tested. Little is demonstrated

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in the manuscript that relies on previous work by the first author. All key arguments must be presented in this manuscript.

- Are the results sufficient to support the interpretations and conclusions?

No: The results are preliminary and no convincing conclusion is reached.

- Is the description of experiments and calculations sufficiently complete and precise to allow their reproduction by fellow scientists (traceability of results)?

No: Some calculations are presented, but some significant hypotheses are asserted as result without any justification or demonstration.

- Do the authors give proper credit to related work and clearly indicate their own new/original contribution?

No: Credit is given in the manuscript, but the vast body of existing work on solid Earth deformation is ignored, as reflected by the very small number of references (9).

- Does the title clearly reflect the contents of the paper?

No: Earth surface deformations are not quantified in the manuscript.

- Does the abstract provide a concise and complete summary?

Yes: The abstract is vague, which reflects the contents of the paper.

- Is the overall presentation well structured and clear?

No: The article should be structured around the scientific method, articulating the hypothesis in the introduction, the experiments carried out in the methods and a validation or invalidation of the hypothesis in a discussion.

- Is the language fluent and precise?

The language is overall fluent, but there are several orphan statements, and the contents are vague rather than precise.

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- Are mathematical formulae, symbols, abbreviations, and units correctly defined and used?

The presented formulae are correct. The international unit of mass is the kilogram, not the gram.

- Should any parts of the paper (text, formulae, figures, tables) be clarified, reduced, combined, or eliminated?

The figures are unclear, small, and not very helpful. The manuscript should refer to previous work and follow the scientific method.

- Are the number and quality of references appropriate?

No: Only 9 references are listed, despite the topic being well studied. Out of these 9 references:

Bowin (2010, eEarth) is a discussion rather than a peer-reviewed article.

Bowin et al. (2005), is a non-peer-reviewed conference abstract.

Constant (2015) is a non-peer-reviewed online book.

Jekeli (1981) is a technical report.

Pellinen (1966) is not readily accessible.

- Is the amount and quality of supplementary material appropriate?

No: The provided supplementary pdf is empty, and there is no description of the companion files.

Interactive comment on Solid Earth Discuss., 7, 1059, 2015.