Geosci. Instrum. Method. Data Syst. Discuss.,
https://doi.org/10.5194/gi-2018-50-RC2, 2019

Geoscientific Instrumentation Methods and Data Systems Discussions
Open Access

Interactive comment on "Multiresolution wavelet analysis applied to GRACE range rate residuals" *by* Saniya Behzadpour et al.

Anonymous Referee #2

Received and published: 27 May 2019

GENERAL COMMENTS

The paper deals with an error analysis of the gravity field model recovery from the GRACE mission data. The MRA approach based on the discrete wavelet transform is applied to the residuals of the inversion; this method allows one to separate the residual time series into bands each having a specified frequency content. It is then possible to look separately for error sources in each of these bands. The authors first validate the method by identifying the already known error sources in short timescale details of the residuals (KBR instrument) and in the medium ones (attitude control). Based on simulations and comparing their results to real-world data, the authors then show that a possible source for long timescale details may be in an imperfect ocean tide modelling. I think this is an interesting and useful paper. The manuscript is written

Printer-friendly version

Discussion paper

in a clear way and contains new results. I recommend the publication after considering my minor comments below.

SPECIFIC COMMENTS

Page-line:

3-16: Please add the time period treated (month, year), here or later at page 6, line 22.

7-18: In Figure 11b, only a part of the time series is shown, not the complete GRACE timespan. Please modify.

8-13: Please specify over what time period the simulation was performed.

9-17: the same magnitude and spatial pattern => comparable magnitude and spatial pattern

TECHNICAL CORRECTIONS

Page-line:

2-15: contributes => contributors

2-29: no reference to Fig. 1a

5-15: descriped => described

7-14: umbra shadow => umbra

10-3: were also identified => were identified

10-19: mainly are => are mainly

Interactive comment on Geosci. Instrum. Method. Data Syst. Discuss., https://doi.org/10.5194/gi-2018-50, 2019.