

Thank you very much for submitting this interesting paper titled "Comparing GRACE-FO KBR and LRI Ranging Data with Focus on Carrier Frequency Variations".

In general, the paper seems to be well-organized. In the Introduction section, the background can be improved adding some references that I suggest in the following specific comments. In my humble opinion, the manuscript does not need any conceptual correction. The results seem good and sufficiently explained.

Specific comments:

Title: I would suggest limiting the use of acronyms in the title.

Line 27: please, add reference (i.e. web site of the Organization).

Line 30: please, add reference for "GRACE using a microwave K-band ranging system".

Line 43: please, add references.

Line 56: please, define the acronym GPS (Global Positioning System)

Line 66: please, define CLK1B for completeness. If available, add reference.

Figure 1: please, add the label 23:59:59 in the x-axis.

Line 112: please, define the acronym GCRS (I suppose that it stands for geocentric celestial reference system).

Line 117: please, define the acronym LRI1B (i.e. LRI level1b)

Line 118: What does LTC stand for? I suppose that it means light time correction, so define the acronym, please.

Line 364: please, define DOWR.

Line 495: What does USO mean? I suppose that USO stands for ultra-stable oscillator, but it is necessary to define it in the manuscript. Add reference, if available.