

## ***Interactive comment on “High Performance Software Framework for the Calculation of Satellite-to-Satellite Data Matchups (MMS version 1.2)” by Thomas Block et al.***

### **Anonymous Referee #2**

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The manuscript presents a system to perform matchup between satellite sensors. The main application stated is the harmonisation of satellite derived data records. It is highly relevant to producers of climate data record where harmonisation is key. The manuscript is well written and organised. I am not too sure about the manuscript fitting in the scope of the journal, however looking at other paper already published in GMD, it looks like this one fits in. I had trouble understanding a few things and I make some suggestions hereafter. Overall I think this manuscript can be published pending some relatively minor corrections.

General comments and suggestions:

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Introduction should be broadened: In particular it does not place the work in a general context of matchup. For instance some other tools exist to matchup satellite data with in situ data (eg Felyx developed in an ESA project). It would be good to state these tools to show that MMS is has a complementary role.

It is not clear what type of data can be matched up. Some hints are given here and there, but I think there should be a very clear couple of sentences to say whether or not the tool work with polar orbiting data and geostationary data? work on L1, L2, L3 data? Does it only work with full swath or can it work with granules?

Section 4.1 is a little obscure. The first sentence for instance “detecting [...] reliably”, what does it mean? How is the database constructed? What is in it? Is this process performed independently for each satellite product? Only swath are considered?

In general figures are not referred to and not sufficiently described in the text which makes it a bit difficult to follow. For instance in page 8, figure 4 should be referred to and described in more details (comment the blue line please).

In section 5: for a measurement point of the reference sensor is the matchup measurement of the Associate sensor necessarily unique? Or can the same point contribute to several matchup? In my opinion one measurement should only contribute once, so I wonder if there is a mechanism in place to check that? The authors may have a different view. Please clarify in the text.

Section 8 and 9: I would suggest to elaborate a little on the possible use of the tool for other applications. For instance, I think there can be an interest for matching up Level 2 data such as sea surface temperature and ocean color.

Minor suggestions:

Page 5, Line 16: “When now” does not sound right to me (?). Page 8, Line 1: “which both”, I would have written “both of which” (?). Figure 3: in the caption what does “complete product” mean? Figure 3 and 4: font size is too small.

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Interactive comment on Geosci. Model Dev. Discuss., <https://doi.org/10.5194/gmd-2017-54>, 2017.

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