

Interactive comment on “Automatic Quality Control of the Meteosat First Generation Measurements” by Freek Liefhebber et al.

Anonymous Referee #2

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AMT review

General comments

This is a clear, well-written paper describing anomaly-detection algorithms applied to Meteosat First Generation data that allow for quality control to screen out problematic values when using the data in climate applications. These algorithms could be usefully generalized to other geostationary sensors.

I recommend that this paper is published if the authors address my minor comments below.

Specific comments

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Figure 10 - left-hand image should have a colour scale bar showing the magnitude of the bias.

Table 4 - MET6 has 62.4% "incomplete image" due to being configured for RSS as noted in the text. Why is the corresponding MET5 value only 0.2% when it was configured for RSS for ~5-10% of its operational life (according to Table 1)?

Table 4 - the "parameter empty" and "value unexpected" stats are identical possibly suggesting a strong overlap between these flags: is the former a subset of the latter case? Is it useful to maintain separate anomaly classifications for these?

More generally, when looking at Table 4, it would be very useful to provide some information about the relative importance of the different anomalies and their implications for the data. For example, what is the typical magnitude of the impact on the data, or what does "parameter empty" actually imply for the data (does it depend on which parameter was empty? Does an empty parameter invalidate an entire channel for a slot, or an entire slot?) At face value, MET2 and MET3 have 100% of slots flagged for 3 anomalies ("invalid signal", "parameter empty", "value unexpected"), and >98% of slots flagged for "background noise removed", but presumably this does not mean all the MET2 and MET3 data should be rejected? Of course, just because a slot is flagged, that does not indicate all data for all channels within the slot are affected, but some information about the impacts of the various anomalies would make these statistics easier to interpret, and would be essential for someone making use of these anomaly flags for quality control. This information could be provided in a separate table or in the text if it will not fit into table 3 or 4.

Technical comments

Page 5, lines 19/20, typo: remove duplicate "also".

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