

## Summary of data checks

This test computes and displays the distribution of the data to detect any obvious value issues (e.g. data corruption, outliers) and illustrates their statistical properties. Any clear outlier can be identified by visually inspecting the histograms of the data distribution below. The histograms are available for the complete time series and for 6 different latitudinal bands (90 to 60, 60 to 30, 30 to 0, north and south). Below the histograms, an interactive boxplot, based on statistical definitions, is available. It gives an overview on the variability of the different statistical properties. The ranges of the physical plausibility are summarized below, with plots available in the following pages. The summary flags values that are outside defined boundaries. The boundaries are named "control limits" and "tolerance limits". The "control limits" are based on statistical analyses and depend on the distribution of the variable considered. The methodology is defined in appendix. The "tolerance limits" are completely independent of the distribution of the variable considered and are predefined acceptable boundaries based on physical considerations.

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[valid\_ranges]

valid\_min =

valid\_max =

[valid\_ranges\_result]

res = ok

msg = The variable is within the expected ranges. [control limits = (-4.251, 2.052)W m<sup>-2</sup> s<sup>-1</sup>; variable ranges = (-3.141, 1.095)W m<sup>-2</sup> s<sup>-1</sup>]

[metadata]

dataset = seasonal-postprocessed-single-levels-solar\_insolation\_anomalous\_rate\_of\_accumulation-cmcc-3

test = valid\_ranges

time = generated on 2020-06-19

### Detailed log output (page 1)

test06-valid\_ranges:INFO:2020-04-23 16:13:58,922:Data range: [from -3.14E+00 to 1.10]W m\*\*-2 s\*\*-1. Estimated physical plausible range [from -6.20E+00 to 2.32]W m\*\*-2 s\*\*-1. No potential outliers found.