

Preliminary assessment of Jason-2 GDR version D for SWH and sigma0 data - September 2012

Pierre Queffeulou

Laboratoire d'Océanographie Spatiale

IFREMER

BP 70, 29280 Plouzané, France

pierre.queffeulou@ifremer.fr

In version T, swh and sigma0 were estimated using mle4 processing.

In version D, both mle4 and mle3 data are available. For swh, the mle4 estimate is used (almost the same as mle3). For Ku sigma0 the mle3 is used.

The two data set (T and D) were compared on a pass by pass basis, over the five first cycles of the Jason-2 mission.

SWH

For SWH, differences between T and D version are very low.

Mean value and standard deviation of differences between T and D SWH, for each pass, over the five first cycles, are shown in figure 1.

The mean value (in blue) fluctuates between -1 cm and + 1 cm, with some sharp transition, from time to time. On average the mean bias between T and D version is 0.2 cm, and the standard deviation is 2.6 cm).

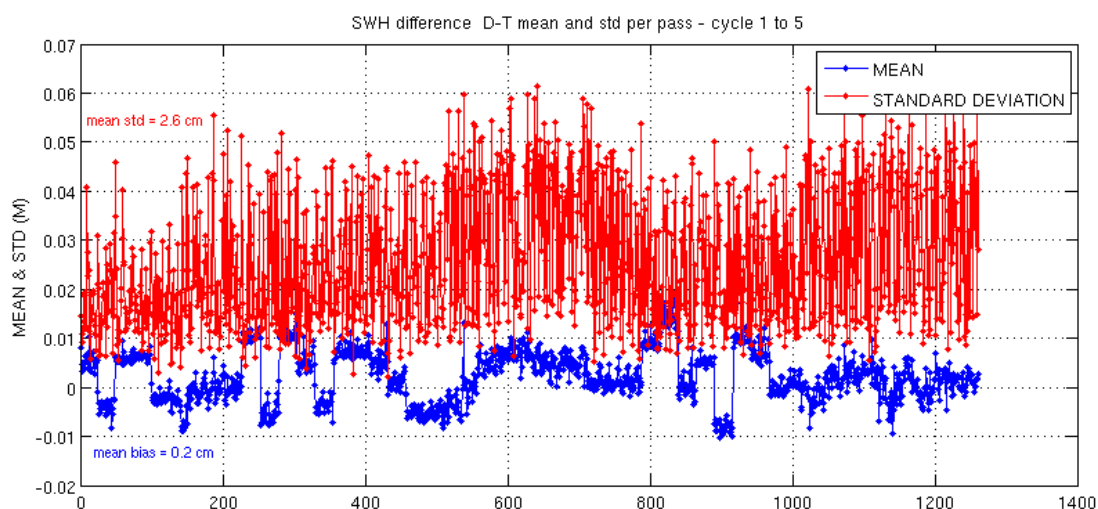


Figure 1 : mean value (blue) and standard deviation (red) of differences between T and D SWH, for each pass.

Ku band SIGMA0

The version D (mle3) sigma0 is much less noisy than the T one. For 1 Hz data, there is almost a ratio of 6 between T and D sigma0 rms, as shown in figure 2, for a typical particular pass.

Over the five first cycles, an average bias of 0.20 dB is observed between the T and D sigma0, with a standard deviation of 0.35 dB (Figure 3).
(sigma0 D – sigma0 T = - 0.20 db)

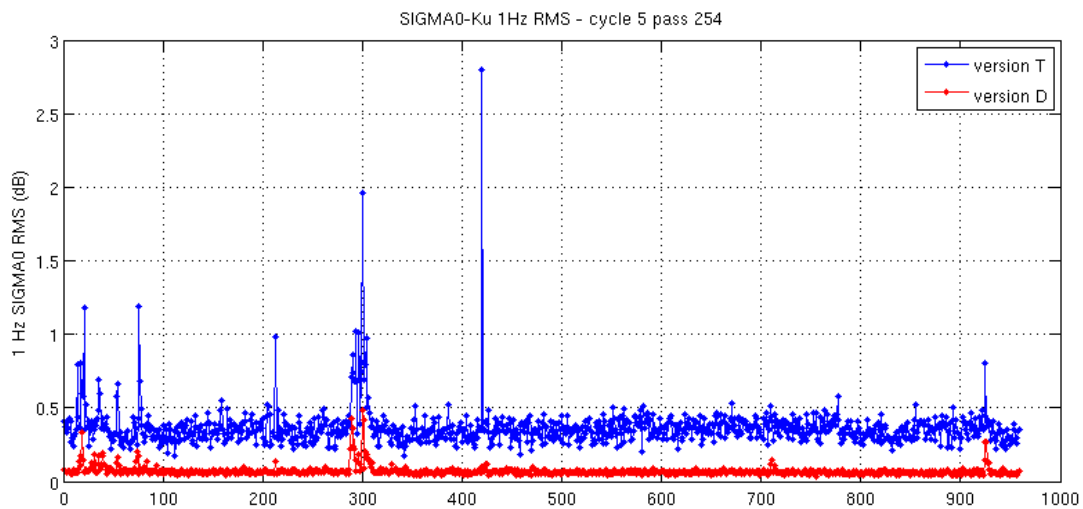


Figure 2: example of along track 1 Hz Ku sigma0 rms for T (blue) and D (red) version.

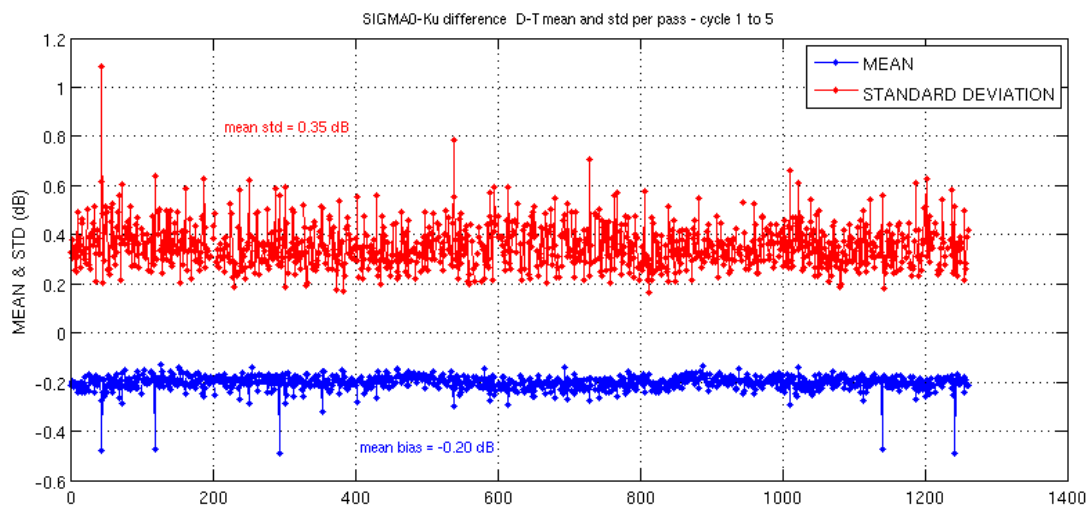


Figure 3 : mean value (blue) and standard deviation (red) of differences between T and D Ku-sigma0, for each pass.

C band SIGMA0 : no significant difference is observed between the T and D version (cf the 3 graphs bellow)

