



EUMETSAT

Monitoring weather and climate from space



ASCAT Status

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Planned 2012 launches

Metop-B launch
(delayed from mid-May)



MSG-3 launch planned for
July 2012 (delayed from
June)



Metop-B: Stage one dropzone issue





ASCAT -A: Instrument status and events

- **All functional and trending indicators are fine**
- **All instrument components still have full redundancy**
- **Power consumption very stable (drops are traced to instrument switch-off events or other payload events affecting the temperature in the environment of the ASCAT)**
- **Few minor Instrument or spacecraft anomalies**
- **Few manoeuvres**



ASCAT –A : Processing

- Level 1b processing: current facility version is **8.1**
- Level 2 processing: see IOVWST-2012 reporting of OSI-SAF/KNMI

20/03/2012: code updates

1. Clean-up of the L1a processing and flag handling
2. Real time monitoring of instrument and platform telemetry

18/08/11:

1. Correction of Hamming window coefficients for SZR product
2. Updated Kp algorithm (Anderson et al. 2012 C-band special issue)
3. Calibration update following the 2010 calibration transponder campaign



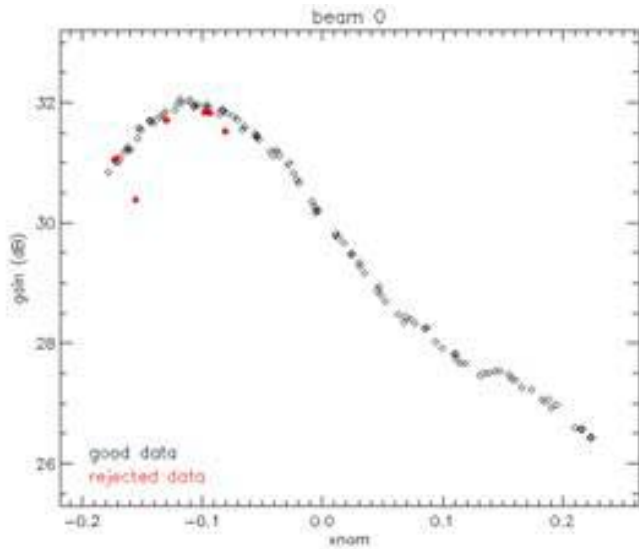


EARS, AHRPT service aspects

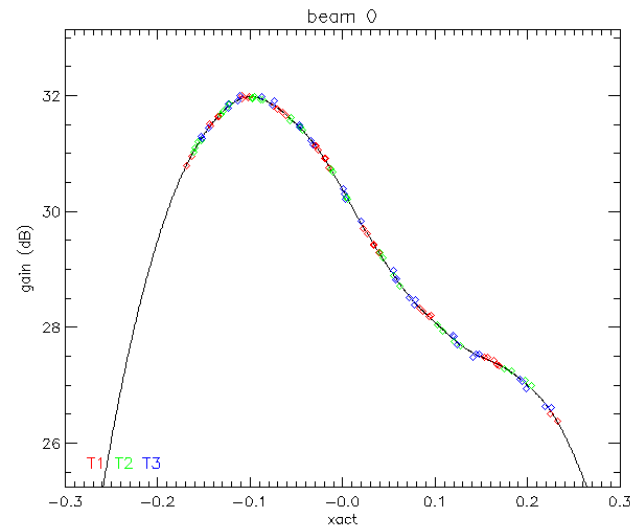
- EARS service, timeliness between 10 and 45 min, which is better than the upto 70 min of the global dump
- In 2011, AHRPT stations (Athens, Maspalomas, Lannion, Svalbard, Moscow, Muscat, La Reunion) have been included
- AHRPT data coverage for will be full for Metop-B. (reduced for Metop-A)
- Disseminating Metop-B EARS ASCAT data roughly 3 months after launch
- the truncated X-band dump (input to EARS ASCAT) will only be available for Metop-A



Transponder Calibration: Small Recap

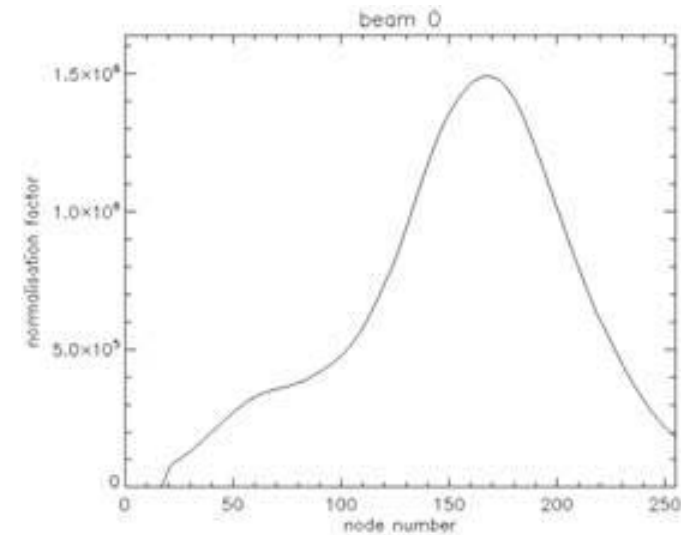


Antenna gain as measured for transponder data



Gain pattern model Fit

Example, beam 0 : left fore antenna/ Cut through the peak of the 2d gain pattern

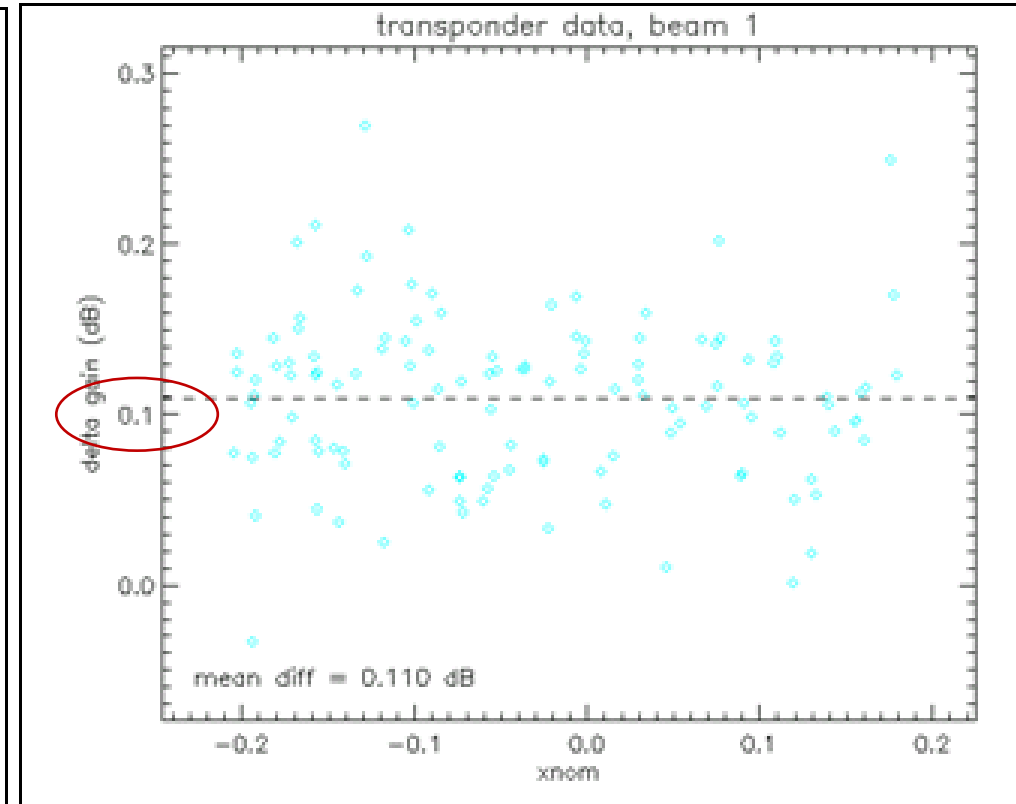
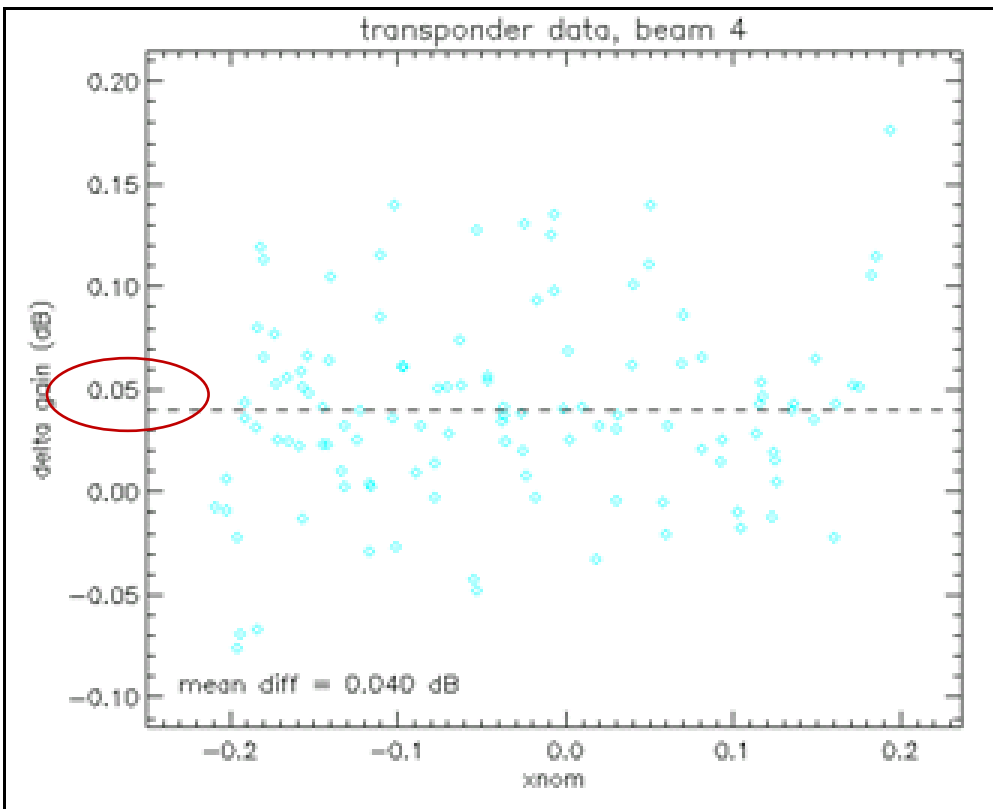


Normalisation factors over the swath



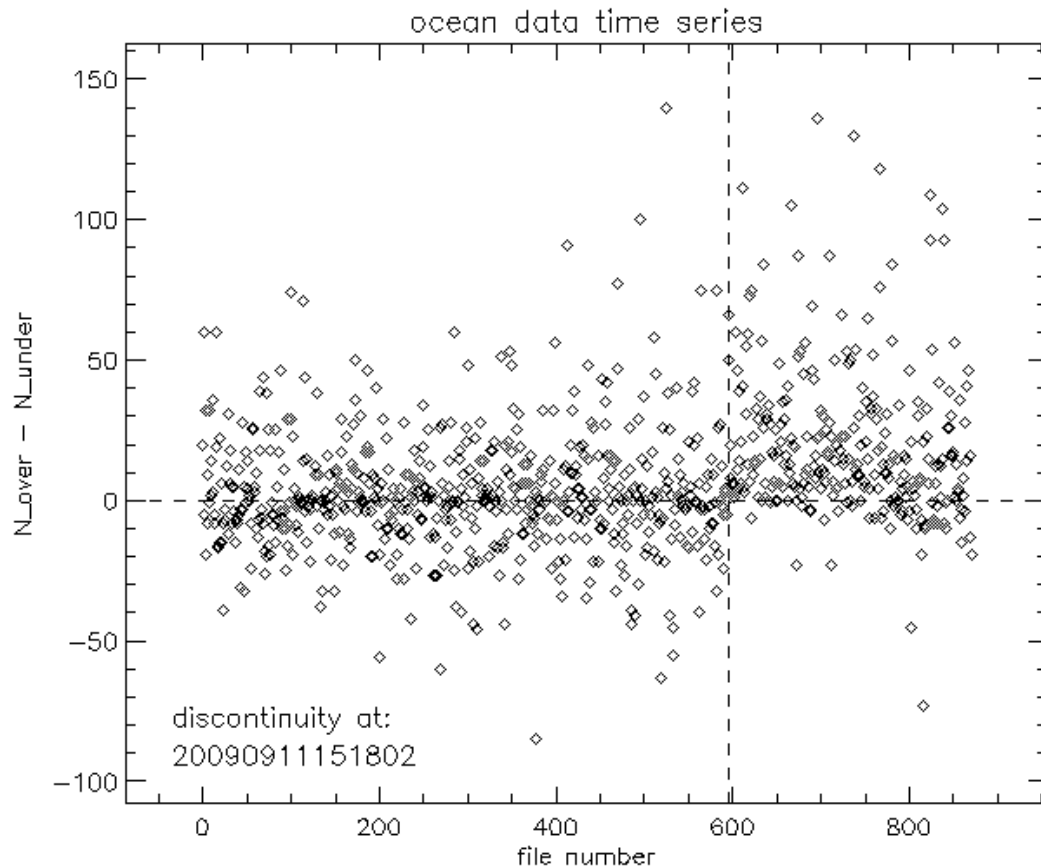
2010 Transponder Campaign

- There was a general increase of 0.05 dB (0.1 dB in Sigma0)
- There was an additional increase of 0.05 dB for beam 1





9/11 2009 Mid left Beam gain change detected from the data



**Detected in level 2
monitoring KNMI**

- **Timing: 11/09/09 after
15:18 UTC**

**(time processor update:
10/09/09 18:24)**



2011-2012 Calibration Campaign

- Run between 20 October 2011 and 14 February 2012
- Transponders functioned well although the signal from T2 dropped by over 10 dB in the last few passes indicating a technical problem.



Third transponder campaign results

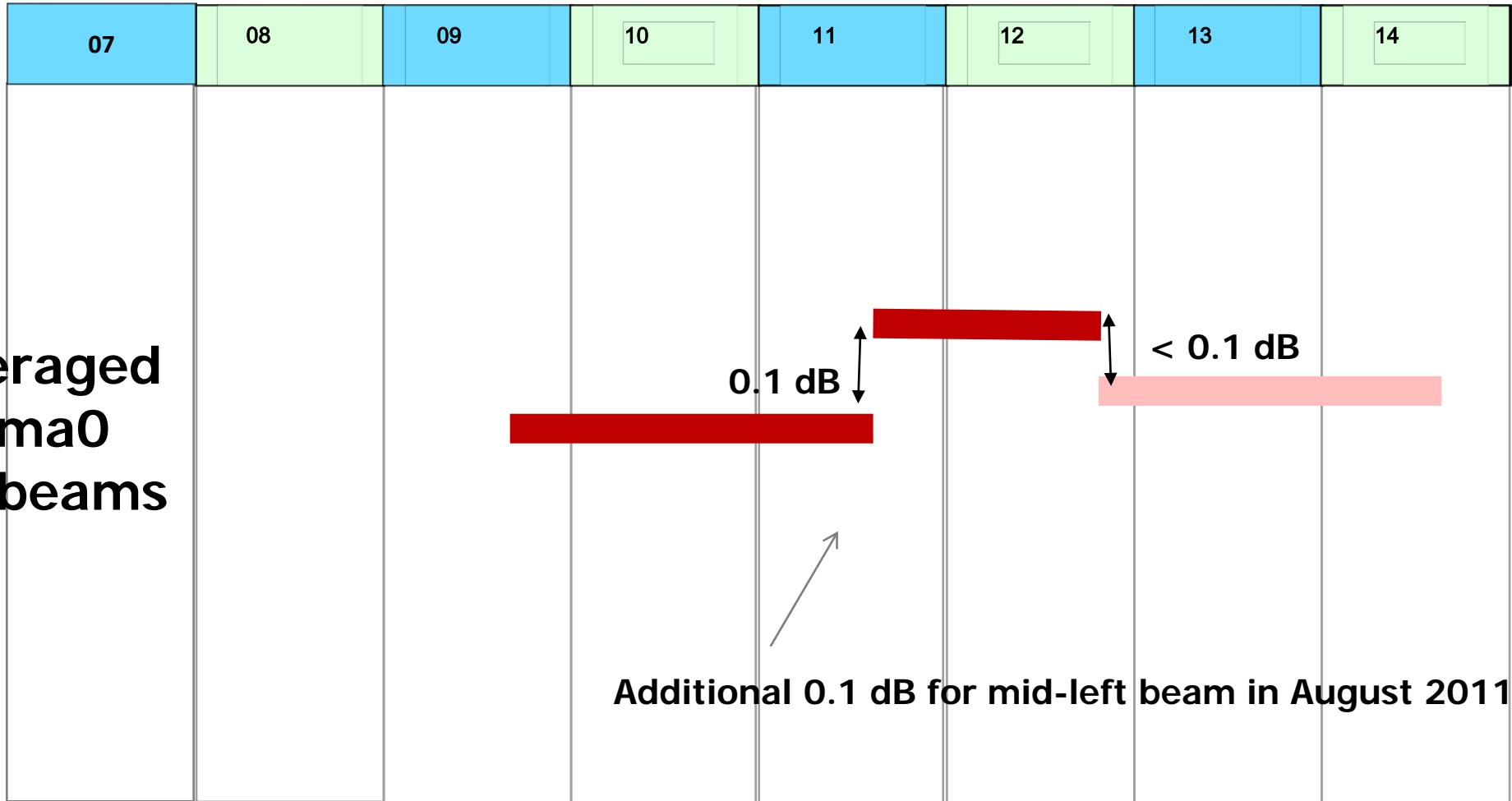
- The new normalisation factors can be compared to the those from the previous campaign (2010) to find the mean change in each beam. See table on the right
- So over the two years ASCAT has been very stable
- Updating the operational processor with the latest calibration results has been recommended.
- Report is available (also from 2nd campaign) ftp://ftp.eumetsat.int/pub/EUM/out/MET/anderson/cal_reports

In Signa0

Beam	Mean diff (dB)
0	-0.053
1	-0.060
2	-0.093
3	-0.055
4	-0.071
5	-0.079



ASCAT : transponder calibration in time



Re-processing now re-planned for 2013



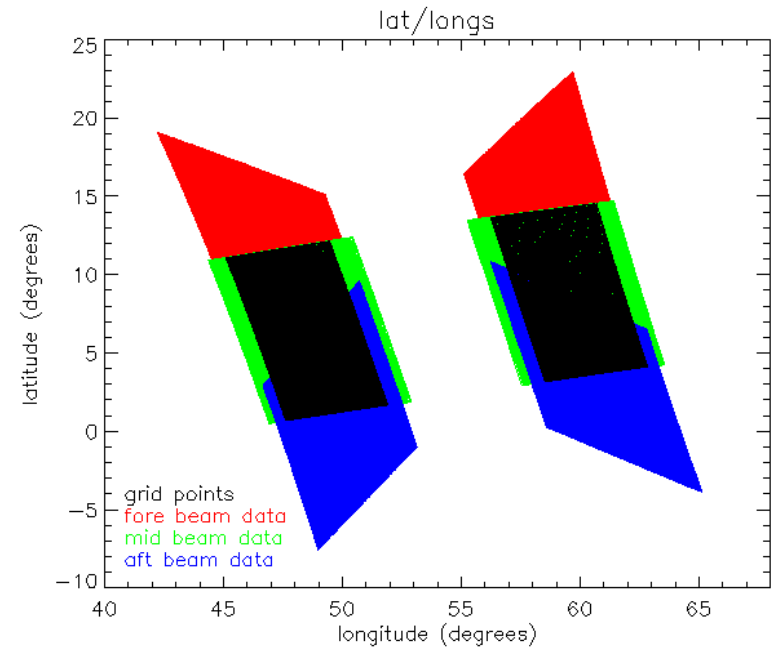
! Product Development: FULL resolution product (SZF) in Near Real Time

Full resolution samples in product correspond to those under the swath coverage only (approximately 192 per beam)

Each line of nodes separated approximately 6.25 km and a fix time difference of 0.9375 s

Extra auxiliary data records, including:

- **lat/lon of nodes with 6.25 km spacing across swath (81 nodes per swath)**
- **Absolute row number**





Conclusions

- ASCAT on Metop-A: It is going excellent!
 - Already more than 5 years of good stable data.
- ASCAT on Metop-B: Be patient!

ASCAT Science Advisory Group

- Planning related to Metop-B launch.
- If too long delays then something quite regular in Q4, 2012