MERIS AATSR Quality Status

Ph. Goryl
ESA-ESRIN
PLAN

- Instruments availability
- QWG organisation and activities
- Documentation
The instrument performs nominally.

Regular outgassing are performed to remove water condensation.
The instrument performs nominally with stable performance.
- Radiometric calibration using the Diffuser 1 every 2 weeks
- Diffuser Ageing Calibration with Diffuser 2 every 3 months
- Wavelength Calibration every 3 months

On some occasions, in the area close to the South Atlantic Anomaly, the Science Data Processing SubSystem (SDPSS) switches down to Pause Mode suspending the scientific measurements until the normal planning commanded a new mode.
Quality Control Organisation

The SPPA activities can be seen around 3 areas inter-dependent: Calibration, Validation and Quality Control.

The activities are organised around different groups:
- QWG synthesis of results, responsible for the operational decision
- ESL monitoring the calibration algorithm correction and evolution, prototyping
- MAVT - MERIS AATSR Validation Team, team composed by scientists, laboratories
- DPQC responsible for the operation quality control
Quality Control Organisation - QWG composition

- **AATSR QWG** composed by:
  - RAL: A. Birks, D. Smith, J. Abolins, C. Mutlow, B. Maddison, M. Pritchard
  - Leicester Univ.: D. Llewellyn-Jones, G. Corlett, J. Remedios
  - Space ConneXions: H. Kelliher
  - Vega: K. Halsall, H. Clarke, G. Davies
  - ESA: P. Lecomte, P. Snoeij, Ph. Goryl

- **MERIS QWG** composed by:
  - D. Antoine (LOV), R. Santer (Lise), J. Fischer (FUB), R. Doerffer (GKSS)
  - C. Brockmann (BC), L. Bourg, G. Obolensky, C. Mazeran (ACRI)
  - S. Delwart, JP Huot, M. Bouvet, P. Snoeij, Ph. Goryl (ESA)

- 3 or 4 meeting per years
QWG activities: Processor/auxiliary files upgrades
AATSR

- New Auxiliary files:
  SST coefficient revisions (using HITRAN 2000) - Dec 2005
  1.6 μm non-linearity correction - Dec 2004
  Visible channel drift correction - Oct 2005

- New processor in preparation:
  LST improvement
  Cloud detection over land improvement

2nd reprocessing in preparation - Summer
New processor including the use of the new auxiliary files and the use of a more frequent visible calibration file
QWG activities: Processor/auxiliary files upgrades

MERIS

- New Auxiliary files:
  - Calibration reference - June 2005
  - Pointing - June 2005

- New processor in operation for real time processing in April:
  - IPF 5.01

- New processor used to reprocess the complete archive (processor changes presented later by L. Bourg).
  - MEGS 7.4 (equivalent to IPF 5.01)

- New post-processor tool under preparation (April or May) to improve the geolocation of the standard FR products (AMORGOS)
QWG activities: Issue for MERIS

In future MERIS QWG will organise collocation meetings for specific topics. Results and actions are discussed at the “regular QWG meetings”.

Next collocation planned:
- **Water leaving reflectance over Case I water in the MERIS Level 2 products is overestimated in the blue and red parts of the spectrum**
  - Collocation meeting in ACRI using the matchup Boussole (and Moby)
  - 3rd collocation in May or June

- **Land products: Aerosol, pressure**
  - 4th collocation in May or June

Results will be discussed at the 11th QWG in September
QWG activities
MERIS Side activities

Number of activities/studies started or will start through contracts:

- Adjacency effect correction
- Aerosol optical properties climatology land and sea
- Glint and O2 band exploitation
- Cloud detection improvement
- Case II water
- Albedo map for atmospheric product quality improvement
Documentation
AATSR

- The product handbook was reviewed, including FAQ

- Cyclic report regularly published
  http://earth.esa.int/pcs/envisat/aatsr/reports/cyclic/

- AATSR bulletin sent by email

- "disclaimer updated"

- Validation reports
Documentation MERIS

Product handbook will be revised. It includes 3 level of access. FAQ, PH, Detailed documentation
Documentation MERIS

- Quality product status - revised after MAVT
- IPF (Instrument Processor Facility) evolution: To be updated
- ATBD update in progress
- Reference Model to be updated
- Cyclic report regularly updated

http://earth.esa.int/pcs/envisat/meris/reports/cyclic/
Conclusion

- AATSR / MERIS nominal, very stable degradation monitored (see next pres.).
- AATSR product overall quality is good.
  AATSR 2nd reprocessing in preparation
- MERIS 2nd reprocessing almost completed. The quality wrt to the operational processor clearly improved.
  Overall quality is ok. Remaining improvement identified.
  3rd reprocessing in 2008 (tbc)
- Documentation improved. Updates still need to be done.