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MINUTES of
MEETING

date de la réunion	15/16 June 2005	ref./*réf.*	SE-R&D-min-16-06-06\CZ	page/*page*	1 / 9

Meeting place *lieu de la réunion*	ESA/ESRIN	Chairman Secretary	C. Zehner C. Zehner
minute's date *dates de minute*	29 June 2006	participants *participants*	Enclosed Listing
subject/objet	**4th MIPAS Science Team Meeting**	copy/*copie*	G. Kohlhammer, S. Briggs, H. Laur, M. Doherty, E. Herland, YL. Desnos

description/description	action/action	due date/date limite
ACTIONS (this meeting)		
AI1 on the MIPAS Science Team to provide to P. Snoeij contact addresses of campaign organisers (and might not be included into the ACVT).	MST	asap
AI2 P. Snoeij to contact all these people (in addition to all ACVT PIs) to get feedback (co-location information) on the definition of the MIPAS validation data set.	ESA	asap
AI3 M. de Laurentis to check the feasibility to operate MIPAS planning under an emergency call (as fast as possible) in case there is a big volcanic eruption.	ESA	end summer 2006
AI4 The MIPAS Science Team to define a standard instrument operation scenario to monitor a volcanic eruption (using a real case like the recent Mirapi volcano eruption).	MST	end summer 2006
AI5 T. Fehr and C. Zehner to check with ECMWF and BIRA/IASB on the preferred mode (NOM or UTLS-1) for a possible data assimilation campaign and the impact on the assimilation system in case always the same orbits per day will be measured.	ESA	asap
AI6 M. de Laurentis to change MIPAS re-initialisation schedule (every 3rd orbit instead during each orbit).	ESA	asap
AI7 Perform detailed analyses of the NLC mode measurements.	IMK, IAA	end summer 2006
AI8 Marta de Laurentis to implement the new mission planning covering the time period from now to the end of August 2006.	ESA	asap

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description/description	action/action	due date/date limite
AI9 C. Zehner to provide more background to the MIPAS Science Team about the planned GOME-2 and IASI validation schedules.	ESA	asap
AI10 H. Fischer will get in contact with lead authors/editors of the polar ozone assessment report under preparation by WMO on the usage of MIPAS data.	IMK	asap
AI11 C. Zehner to collect MIPAS peer-reviewed scientific publications and make them available at the ESA Principal Investigator Webpage - eopi.esa.int.	ESA	end summer 2006

1. Welcome and Introduction

C. Zehner welcomes all participants at ESRIN, where the 4th MIPAS Science Team Meeting is taking place.

2. Action Items Status of last Meetings

Zehner (ESA)

All open Action Items (AIs) of previous MIPAS Science Team Meetings have been reviewed and open AIs were included into the listing of this meeting (see above).

3. MIPAS Instrument Status

Fehr (ESA)

During the last 6 months MIPAS instrument performance has been quite good (only 2 critical errors) and the number of IDU error occurrence seems to have stabilised (about 1 anomaly/14 orbits). Based on this instrument performance an extended duty cycle of 42% instead of 35% might be possible.

Nevertheless the instrument 'self-healing effect' after instrument switch-off does not occur anymore as it has been monitored before and does not need to be taken into account in the mission planning.

The MIPAS Science Team recommends to operate the MIPAS instrument in the future in a duty cycle of 42% in order to further exploit this mission. Furthermore the MIPAS Science Team recommends to ESA Mission Management to present MIPAS instrument performance (e.g. as done during the Atmospheric Science Conference at ESRIN during May in comparison to other instruments on the Envisat satellite) in a more positive way.

4. MIPAS Operations/Data Processing Status

Fehr (ESA)

Since the last MIPAS Science Team Meeting a series of campaigns (e.g. EC/SCOUT, INTEX-B, NASA/SAUNA) have been supported by dedicated MIPAS operations (most in UTLS-1 mode) and detailed MIPAS mission planning has been performed by July 2006.

Reprocessing of all MIPAS high resolution data has been finalised with Processor software version 4.61 and 4.63.

The reprocessing of all Level 1 low resolution measurements (Aug. 2004 –June 2006) with software version 4.65 has been finalised. Level 2 products dated on Aug. /Sep. 2004 have been processed as well.

All these data are available to the user community via ftp server:

ftp://mip1usr@ftp-ops.de.envisat.esa.int/

ftp://mip2usr @ftp-ops.de.envisat.esa.int/.

Future planned MIPAS ground-segment upgrades: The MIPAS processing software version 5.0 is under development and full MIPAS mission re/processing (all data over all instrument lifetime) might start during 2007. In order to facilitate fast and efficient generation of validation data sets (to be used to assess the quality of these new MIPAS data products) the MIPAS Processor prototype for Level 1 will be operated at Bomen and the Level 2 prototype might be implemented into the ESRIN GRID infrastructure (based on past experience the MIPAS products as provided by prototype software systems are representative for the ESA operational Processor generated products). Highest priority for processing have the ESA balloon campaigns data.

AI1 on the MIPAS Science Team to provide to P. Snoeij contact addresses of campaign organisers (who might not be included into the ACVT).

AI2 P. Snoeij to contact all these people (in addition to all ACVT PIs) to get feedback (co-location information) on the definition of the MIPAS validation data set.

5. Review of new MIPAS Modes/Measurements

The settings of all new MIPAS operational modes seem to be fine except for the Aircraft Emission mode, which are currently investigated by ESA (as well as the feasibility to perform sideways measurements over 1 full orbit). In this context the feasibility to monitor volcanic eruptions with MIPAS was re-discussed one open issue being the needed time for instrument operation planning.

AI3 M. de Laurentis to check the feasibility to operate MIPAS planning under an emergency call (as fast as possible) in case there is a big volcanic eruption.

AI4 The MIPAS Science Team to define a standard instrument operations scenario to monitor a volcanic eruption (using a real case like the recent Mirapi eruption).

B. Kerridge reports that ECMWF is still interested in the possible operational assimilation of MIPAS Level2 data into their forecasting system. For this purpose ECMWF would need to receive MIPAS data in near real time and to have measurements performed each single day (e.g. instrument operations like 1 orbit on followed by 2 orbits off). T. Fehr reports that a reactivation of the MIPAS near real time service

would take about 1 year within the existing Envisat ground-segment. Therefore the MIPAS Science Team recommends having a data assimilation campaign (1 month duration) within the near future in order to provide test data to colleagues working on MIPAS data assimilation.

AI5 T. Fehr and C. Zehner to check with ECMWF and BIRA/IASB on the preferred mode (NOM or UTLS-1) for a possible data assimilation campaign and the impact onto the assimilation system in case always the same orbits per day will be measured.

Re-initialisation leads to a data gap of about 4 minutes/orbit and based on the presented MIPAS instrument performance the MIPAS Science Team recommends to execute re-initialisation only every 3rd orbit (knowing that in case of error occurrence in the worst case 3 orbits of measurements might be lost).

AI6 M. de Laurentis to change MIPAS re-initialisation schedule (every 3rd orbit instead during each orbit).

AI7 IMK and IAA to perform detailed analyses of the NLC mode measurements.

General Comment: The MIPAS Science Team notes that based on the frequent campaign support many MIPAS measurements in UTLS-1 mode have been performed in the past. For the future operations planning more emphasis shall be given to NOM mode operations.

6. Future Mission Planning

MIPAS Short-Term Operational Scenario:

Time 2005	**Mode**	**Operational Scenario**	**Objective**
July 8 - 11	Off		Instrument Rest
July 12-14	NOM		Nominal operations
July 15-20	Off		Instrument Rest
July 21- August 21	UTLS-1		AMMA/SCOUT Campaign support and possible data assimilation techniques testing
August 22-24	NOM		Nominal operations
August 25-30	Off		Instrument Rest followed by decontamination and baseline mission scenario

AI8 Marta de Laurentis to implement the new Mission planning covering the time period from now to the end of August 2006 as soon as possible.

MIPAS Operational Scenario Priorities for the second half of 2006:

Following campaigns should be supported:

- AMMA/SCOUT campaign during summer over Africa
- Data assimilation campaign
- Cirrus campaign during autumn (still tbc)
- ECOWAR campaign in Italy (23 Oct. – 12 Nov. to be supported by nominal MIPAS measurements)
- Possible support to METOP Validation

AI9 C. Zehner to provide more background to the MIPAS Science Team about the planned GOME-2 and IASI validation schedules.

Baseline Scenario:

- Monthly performance of 3 continuous days in NOM and UTLS-1 mode
- Every 3 months MA and UA measurements
- Yearly execution of AE mode
- Arctic/Antarctic winter measurements (4-6 orbits per day performed over several weeks)

7. MIPAS Data Exploitation

The MIPAS contributions to the Atmospheric Science Conference have been briefly reviewed by the Science Team:

- MIPAS presentations (oral and poster) had a very high information content
- there could have been more oral presentation especially on results on solar storms and NOx

Recommendation of the MIPAS Science Team to ESA to include in future Conferences also the Theme 'Upper Atmosphere'.

The MIPAS Science Team notes that in fact we have now two MIPAS missions as it will be nearly impossible to achieve exactly the same retrieval results using two different spectral resolution measurements. Nevertheless the differences between these MIPAS measurements should be small (A. Dudhia might have a more detailed look into this) when compared to other satellite missions (e.g. ACE).

8. Any Other Business

H. Fischer reported on the status of the MIPAS Validation Publication which is ongoing and in good shape. Key scientific MIPAS reference validation papers will be important as on the one hand the scientific community beyond the core MIPAS team is now starting to use MIPAS data and on the other hand ozone assessment reports as produced by WMO are based on such peer-reviewed publications..

AI10 H. Fischer will get in contact with lead authors/editors of the polar ozone assessment report under preparation by WMO on the usage of MIPAS data.

AI11 C. Zehner to collect MIPAS peer-reviewed scientific publications and make them available at the ESA Principal Investigator Webpage - eopi.esa.int (including links to ESA Conferences, where MIPAS papers were presented).

Next MIPAS Science Team Meeting: is planned at Granada – Dec. 12/13

Agenda:

June 15 Conference-Room D

14.00-14.30	Welcome/Agenda/AIs from last Meetings (C. Zehner)
14.30-14.50	MIPAS Instrument Status (J. Frerick)
14.50-15.10	Status on ESA MIPAS Processors (including reprocessing and data delivery to users so far) (T. Fehr)
15.10-15.30	Overview on executed MIPAS Instrument Operations during the last half year (M. De'Laurentis)
15.30-16.00	Coffee Break
16.00-17.00	Review of MIPAS (as performed so far) Operations and Definition of future Operations Scenario (including campaigns) - Future planning (H. Oelhaf) - Scientific campaign (M. Carlotti)

June 16 Conference-Room E

09.00-10.30	Any Open Issues on Mode settings (e.g. AE mode)? Any Scientific results or problems found using the new MIPAS Level 1 data sets (low spectral resolution – all modes)? Any recent campaign intercomparison results available? (All)
10.30-11.00	Coffee Break
11.00-11.30	Review of MIPAS Presentations at Atmospheric Science Conference (ESRIN – May 2006) • good spectrum of MIPAS scientific results covered (or were items missing – e.g. under-representation of Mesospheric results?) • applications using MIPAS data presented? • any synergistic usage with other instruments on Envisat presented?
11.30-12.30	AOB – MIPAS validation paper (H. Fischer) – MIPAS PR (ESA Webportal story on PSCs, PR images, putting MIPAS scientific publications onto the EOPI.esa.int Webpage?) – others

List of Participants:

Carli, Bruno	IFAC
Carlotti, Massimo	Universita Degli Studi di Bologna, Dip. di Chimica Fisica ed Inorganica
Dudhia, Anu	Oxford University, Atmospheric Oceanic & Planetary Physics Clarendon Laboratory
Fischer Herbert; Oelhaf Herman	Institut für Meteorologie und Klimaforschung, Forschungzentrum Karlsruhe
Flaud, Jean-Marie	LISA CNRS/Univ Paris
Gessner, Ronald	Astrium
López-Puertas, Manuel	Instituto de Astrofisica de Andalucia
Kerridge, Brian	Rutherford Appleton Laboratory
Fehr Thorsten; Marta de Laurentis;	ESA

Annex A:

ACTIONS		status
AI9ST2 ESA to include a listing onto the Uranus ftp server providing an overview of re/processed MIPAS Level 1 and Level 2 data including the version number of the processing software being used.	ESA	for measurements with high spectral resolution closed/ongoing for measurements in low spectral resolution
AI12ST2 MIPAS Science Team to provide MIPAS PR images to C. Zehner (onto ftp server - to be used for the ESA Envisat Webpage-Gallery on MIPAS promotion).	MST	open
AI1 to H. Oelhaf to send a problem report to eohelp@esa.int and to T. Fehr to investigate why two different data sets are being provided and what is the reason for the difference seen in these data	IMK, ESA	Closed:known problem in 4.62 MIPAS processor version and solved by data reprocessing
AI2 to T. Fehr to check the feasibility to implement a floating data gap during nominal mode operations.	ESA	closed:frequency and position of the data gap can be set on-request, but it can be uploaded max once per day during 3-days measurements; during validation campaign it needs to be fix (otherwise overpass tables generation is impossible)
AI3 to T. Fehr to check the available quality flags in the MIPAS L1 and L2 and report this back to IMK.	ESA	open
AI4 to T. Fehr to check the feasibility to perform AE measurements over 1 full orbit.	ESA	open (investigations on technical feasibility still ongoing)
AI5 to T. Fehr to check the feasibility to perform again S6 special mode measurements (with further reduced spectral resolution).	ESA	closed: not feasible
AI6 to the MIPAS Science Team to define in detail the Diurnal Change Mode settings.	MST	Open – A. Dudhia will have a more detailed look into this and report back to the MST
AI7 to H. Oelhaf to include twice Dynamics Mode measurements (alternating with Nominal Mode Measurements) into the MIPAS Mission planning for 2006.	IMK	closed
AI8 to C. Zehner to provide more detailed information on the SAUNA campaign to the MIPAS Science Team	ESA	closed
AI9 to H. Oelhaf to provide the MIPAS mission planning to M. Laurentis for the first 4	ESA	closed

months of 2006.		

Status of all Action Items as resulting from previous MIPAS Science Team Meetings