



The 21st International TOVS Study Conference (ITSC-21)

Darmstadt, Germany

PROGRAM

Last updated: 20-November-2017

Tuesday, 28 November 2017

16:00-19:00 Registration at Darmstadtium

Wednesday, 29 November 2017

8:00 Registration
(continues to 15:00)
Poster setup

8:30 – 9:00 Welcome Mitch Goldberg and Niels Bormann (ITWG Co-chairs)

Welcome by EUMETSAT Alain Ratier

Overview of EUMETSAT

Local arrangements Dieter Klaes

Review of agenda Mitch Goldberg and Niels Bormann (ITWG Co-chairs)

9:00 – 10:00 Session 1a: Community software – session dedicated to Paul van Delst (oral presentations - 12 minutes)

Chairs: Andrew Collard and Bill Smith

1.01	Benjamin Johnson	CRTM Development Status and Future Plans
1.02	Quanhua (Mark) Liu	Community Radiative Transfer Model (CRTM) Applications to Support Sensor Cal/Val and EDR Generations
1.03	James Hocking	RTTOV Development Status
1.04	Liam Gumley	CSPP LEO: Recent updates and support for JPSS-1

10:00 – 10:15 Session 1b: Community radiative transfer software (poster introductions - 1 minute: no visual aids)

Chairs: Andrew Collard and Bill Smith

1p.01	Withdrawn	
1p.02	Benjamin Johnson	Radar Simulation in CRTM
1p.03	Pascale Roquet	RTTOV GUI, the graphical user interface for RTTOV.
1p.04	Marco Matricardi	Modeling of nonlocal thermodynamic equilibrium effects in the classical and principal component based version of the RTTOV fast radiative transfer model
1p.05	Cristina Lupu	Evaluation of the radiative transfer model RTTOV-12 at ECMWF

10:15 – 10:45 Break and poster viewing 1b

10:45 – 11:15 Session 1c: Community software (oral presentations - 12 minutes)

Chairs: Allen Huang, Vivienne Payne and Guido Masiello

1.05	Kathleen Strabala	NASA International MODIS/AIRS Processing Package (IMAPP): Current Status and Future Plans
1.06	Nigel Atkinson	NWP SAF software deliverables: 2017 to 2022

11:15 – 11:35 Session 1d: Community software and direct broadcasting (poster introductions - 1 minute: no visual aids)**Chairs: Allen Huang, Vivienne Payne and Guido Masiello**

1p.06	Scott Mindock	CSPP SDR 3.0 Support for JPSS-1
1p.07	Geoffrey Cureton	Himawari Support In The CSPP-GEO Direct Broadcast Package
1p.08	Graeme Martin	CSPP Geo direct broadcast software for GOES-16 and Himawari-8: project overview and lessons learned
1p.09	Nick Bearson	CSPP VIIRS Flood Detection
1p.10	Withdrawn	
1p.11	Walter Wolf	Planned Updates to the STAR BUFR and GRIB Tailoring System for Satellite Operational Products
1p.12	Gloria Cristina Pujol	Contributions of DBNet South America-Argentina Component for NWP Community
1p.13	Jin Woo	Current Status and Future Plan of Direct-Readout LEO Weather Satellite Operation in NMSC/KMA
1p.14	Jessica Braun	Aqua and Terra Direct Broadcast Processing at CIMSS/SSEC
1p.15	Liam Gumley	NOAA DB Network: Providing advanced sounder data in near real-time for NWP

11:35 – 12:20 Session 2a: Radiative transfer (oral presentations - 12 minutes)**Chairs: Vivienne Payne, Guido Masiello and Allen Huang**

2.01	Raymond Armante	TIR and SWIR level-1 and level-2 products validation: a deeper insight to updated of the 4A line-by-line radiative transfer model
2.02	Raymond Armante (for Emilien Bernard)	The 4A/OP model: from NIR to TIR, new developments for time computing gain and validation results within the frame of international space missions
2.03	Niels Bormann	Radiative transfer along a slanted path

12:20 – 12:40 Session 2b: Radiative transfer (poster introductions - 1 minute: no visual aids)**Chairs: Vivienne Payne, Guido Masiello and Allen Huang**

2p.01	Stephan Havemann	Improvements to fast radiative transfer modelling of hyperspectral infrared sounders
2p.02	Xavier Calbet	Effects of atmospheric turbulence in radiative transfer modelling
2p.03	Wenguang Bai	Estimation of CO ₂ column retrieval errors from ignoring 1.6 μ m polarization calculation in forward modeling for space-borne polarization-sensitive instruments
2p.04	Fuzhong Weng	Simulation of UV Radiance Using UNL-VRTM
2p.05	Raymond Armante	From GEISA-2015 to GEISA-2018
2p.06	Oleksandr Bobryshev	Oxygen line-mixing: Consolidating a spectroscopy for AMSU-A
2p.07	Emma Turner	Quantification of line-by-line parameter errors in the 183.31 GHz water vapour line
2p.08	Domenico Cimini	Sensitivity of microwave downwelling brightness temperatures to spectroscopic parameter uncertainty
2p.09	Heather Lawrence	Uncertainties in the dielectric constant model for seawater used in FASTEM and implications for the calibration/validation of new microwave sounding and imaging instruments
2p.10	Steve J. English	A reference model for ocean surface emissivity from the microwave to the infrared
2p.11	Louis Garand	Accounting for variations of the trial field along the line of sight of the satellite in radiance data assimilation

12:40 – 13:30 Lunch

13:30 – 14:00 Poster viewing 1d, 2b**14:00 – 15:15 Session 3a: Calibration, validation and uncertainty (oral presentations - 12 minutes)****Chairs: William Bell and Tony Reale**

3.01	Tim Hewison	Global Space-based Inter-Calibration System (GSICS) Infrared Reference Sensor Traceability and Uncertainty
3.02	Gerrit Holl	A new Fundamental Climate Data Record (FCDR) for nearly 40 years of measurements from the High resolution Infrared Radiation Sounder (HIRS) based on a metrologically traceable uncertainty analysis
3.03	Fabien Carminati	Characterisation of numerical weather prediction model biases for improved satellite cal/val.
3.04	Alexander Uspensky	Cal/Val studies for microwave and infrared sounding data from METEOR-M series satellites
3.05	Stuart Newman	An assessment of Meteor-M N2 MTVZA imager/sounder data at the Met Office and ECMWF for GAIA-CLIM

15:15 – 15:35 Session 3b: Calibration, validation and uncertainty (poster introductions - 1 minute: no visual aids)**Chairs: William Bell and Tony Reale**

3p.01	Stuart Newman	The GAIA-CLIM project
3p.02	Stefano Migliorini	Robust quantification of uncertainty on short-range model forecasts in radiance space based on reference sonde data
3p.03	Brett Candy	Assessment and assimilation of microwave imager observations in NWP global models
3p.04	Heather Lawrence	Assimilation of FY-3C MWHS-2 at ECMWF and evaluation of the microwave imager FY-3C MWRI at ECMWF and the Met Office
3p.05	Marc Prange	Natural and vicarious calibration targets for satellite based microwave sensors
3p.06	Lihang Zhou	Post Launch Calibration and Validation of JPSS-1 Sensor Data Records (SDRs) and Environment Data Records (EDRs) Algorithms
3p.07	Joe Taylor	Current Status of the CrIS Calibration Activities at UW-SSEC
3p.08	Allen Larar	Arctic field campaign inter-comparisons in support of SNPP CrIS validation
3p.09	Ninghai Sun	Advances in Suomi NPP ATMS Data Reprocessing
3p.10	Bomin Sun	Vaisala Radiosonde RS92 to RS41 Transition: Implications for Satellite Data Cal/Val

15:35 Group photo**15:50 – 16:15** Break and poster viewing 3b**16:15 – 17:15 Session 4a: New and current observations (oral presentations - 12 minutes)****Chairs: Peng Zhang and Stephen English**

4.01	Qifeng Lu	The status of FY-3C and FY-4A in NWP and the preparation of FY-3D for NWP
4.02	Wei Han (for Peiming Dong)	Study on the simulation and bias characteristics of FY-4A GIIRS observation
4.03	Indira Rani	Impact of the assimilation of water vapor imager radiances from INSAT 3D and 3DR satellites in the NCMRWF Unified Model
4.04	Hyeyoung Kim	Application of Microwave Satellite Data to KMA Local Data Assimilation and Prediction System (LDAPS)

17:15 – 17:30 Session 4b: New and current observations (poster introductions - 1 minute: no visual aids)**Chairs: Peng Zhang and Stephen English**

4p.01	Andrew Collard	Plans for the utilization of JPSS and GOES-R satellite systems
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4p.02	Yoichi Hirahara	Operational use of Suomi NPP ATMS radiance data in JMA's global NWP system
4p.03	Yasutaka Murakami or Masahiro Kazumori	Assimilating clear-sky radiance of SSMIS humidity sounding channels in the JMA global NWP system with newly developed cloud detection algorithm
4p.04	Jeon-Ho Kang	Development of the SSMIS processing system and their impacts on the 3DVAR in KIAPS
4p.05	Bryan Karpowicz	Microwave Radiance Assimilation at NRL: Advanced Techniques, Developments, and Future Sensors
4p.06	Bryan Karpowicz (for Steve Swadley)	Salvaging of the Final SSMIS Flight Unit for a Future Flight-of-Opportunity
4p.07	Brett Candy	Recent Improvements to the Assimilation of Microwave Sounders in the Met Office NWP system
4p.08	Stuart Newman (for Amy Doherty)	Investigation into the impact of SAPHIR on humidity analyses at the Met Office

17:45 Icebreaker, supported by DWD (with poster viewing 1b, 1d, 2b, 3b, 4b)

Thursday, 30 November 2017

8:30 – 10:00 Session 5a: Assimilation - clouds (oral presentations - 12 minutes)

Chairs: Kozo Okamoto and Christina Köpken-Watts

5.01	Alan Geer	All-sky assimilation of IASI upper-troposphere water vapour channels
5.02	Ed Pavelin	Improved assimilation of cloud-affected hyperspectral infrared radiances
5.03	Imane Farouk	Towards the improvement of the assimilation of cloudy IASI observations in numerical weather prediction
5.04	Masahiro Kazumori	Development of an all-sky assimilation of microwave imager and sounder radiances for the Japan Meteorological Agency global numerical weather prediction system
5.05	Peter Weston	Assimilation of AMSU-A in the presence of cloud and precipitation
5.06	Stefano Migliorini	All-sky assimilation of microwave sounders at the Met Office

10:00 – 10:15 Session 5b: Clouds: assimilation and radiative transfer (poster introductions - 1 minute: no visual aids)

Chairs: Kozo Okamoto and Christina Köpken-Watts

5p.01	Katrin Lonitz	Matching scales of observed and simulated cloud and precipitation processes seen in the microwave spectrum
5p.02	Yanqiu Zhu	Further developments in the all-sky microwave radiance assimilation and expansion to ATMS in the GSI at NCEP
5p.03	Andrew Collard (for Li Bi)	All-sky infrared radiances assimilation of selected humidity sensitive IASI channels at NCEP/EMC
5p.04	Kozo Okamoto	Evaluation and assimilation of all-sky infrared radiances of Himawari-8
5p.05	Alan Geer	Scattering from non-spherical frozen particles in all-sky microwave radiative transfer
5p.06	Victoria Galligani	Evaluation and comparison of simulated microwave cloudy radiances using RTTOV-SCAT and ARTS
5p.07	Jerome Vidot	Hyperspectral IR cloudy radiance and Jacobian simulations : comparison between RTTOV and LIDORT

10:15 – 10:45 Break and poster viewing 5b

10:45 – 12:00 Session 6a: Climate (oral presentations - 12 minutes)**Chairs: Hank Revercomb and Claudia Stubenrauch**

6.01	Claudia J. Stubenrauch	The role of upper tropospheric cloud systems in climate: building observational metrics for Process Evaluation Studies
6.02	Martin Stengel	35 years of cloud observations based on HIRS measurements
6.03	Christoforos Tsamalis	Evaluation of the CM SAF Upper Tropospheric Humidity (UTH) climate data record from AMSU-B/MHS sounders
6.04	Cheng-Zhi Zou	Evaluation of Inter-Sensor Biases between SNPP/ATMS and POES/AMSU-A
6.05	William Bell	The use of satellite radiances in the C3S ERA5 Reanalysis

12:00 – 12:15 Session 6b: Climate (poster introductions - 1 minute: no visual aids)**Chairs: Hank Revercomb and Claudia Stubenrauch**

6p.01	Eui-Seok Chung	An assessment of the consistency between satellite measurements of upper tropospheric water vapor
6p.02	Nathalie Selbach	The GEWEX water vapor assessment (G-VAP) – results from inter-comparisons and stability analysis.
6p.03	Nathalie Selbach	Climate Data Records and user service of the EUMETSAT Satellite Application Facility on Climate Monitoring
6p.04	Timo Hanschmann	Preparing HIRS radiances as input to Reanalysis within the Copernicus Climate Change Service
6p.05	Cyril Crevoisier	Towards homogeneous reference datasets from Metop-A and Metop-B validated observations
6p.06	Mayte Vasquez	Intercomparisons and Validation of IASI L1 Reprocessed Data of MetOp-A
6p.07	Mohamed Dahoui	Detection of trends and variability of certain atmospheric features by analysing long time series of satellite monitoring statistics
6p.08	Xiao-Hai Yan	An Overview of the Global Warming "Hiatus" and New Studies

12:15 – 13:30 Lunch**13:30 – 14:00 Poster viewing 6b****14:00 – 14:40 Session 7: NWP centre reports (poster introductions - 3 minutes, 1 slide)****Chairs: Dirceu Herdies and Eunhee Lee**

7p.01	Norio Kamekawa (JMA)	Recent upgrades of satellite radiance data assimilation at JMA
7p.02	Mohamed Dahoui (ECMWF)	Overview of ECMWF NWP changes since ITSC-20
7p.03	Christina Köpken-Watts (DWD)	Developments in satellite data assimilation at DWD since ITSC-XX
7p.04 7p.05	Nadia Fourrie, Florian Suzat (Météo France)	Overview of infrared radiance assimilation in Météo-France models/ Ongoing developments on the use of microwave sounders and imagers at Météo-France
7p.06	Brett Candy (Met Office)	NWP Centre Update: Met Office
7p.07	Fiona Smith (BoM)	Satellite assimilation at the Bureau of Meteorology
7p.08	Indira Rani (NCMRWF)	NCMRWF NWP status
7p.09	Andrew Collard (NCEP, for John Derber)	Progress and plans for the use of radiance data in the NCEP global and regional data assimilation systems

Action Items from ITSC-20**Moderators: Mitch Goldberg and Niels Bormann****14.40-14.50 CGMS report, 5 min (Mitch Goldberg)****14.50-15.30 Working group action items from ITSC-20 (10 minutes)**

- **NWP (Fiona Smith and Andrew Collard)**
- **Radiative transfer and surface properties (Marco Matricardi and Benjamin Johnson)**
- **Advanced Sounders (Dieter Klaes and Bill Smith)**

15.30-16.00 BREAK (poster viewing 7)

16.00-16.40 Working group action items from ITSC-20 (10 minutes)

- Products and Software (Nigel Atkinson and Liam Gumley)
- Climate (Nathalie Selbach and Cheng-Zhi Zou)
- International and Future Systems (Stephen English and Peng Zhang)

16:40-17:05 Special topics (10 minutes)

- World Radiocommunication Conference 2019 (WRC-19) items of interest to ITSC (Richard Kelley)
- DBNet implementation status and planning (Mikael Rattenborg)

17.05-17.15 Technical sub-group report (5 minutes)

- Direct broadcast packages (Liam Gumley)

17.30-18.30 Technical Sub-Group meetings

- RTTOV (James Hocking)
- CRTM (Benjamin Johnson)
- RARS/DBNet and direct broadcast packages (Liam Gumley, Mikael Rattenborg)

18.45-20.45 GAIA-CLIM workshop on satellite validation with NWP

Friday, 1 December 2017

8:30 – 9:45 Session 8a: Hyperspectral IR (oral presentations - 12 minutes)

Chairs: Nigel Atkinson and Thomas August

8.01	Dorothee Coppens	MTG-IRS L1 processing overview and performances
8.02	Hank Revercomb	Correction to Remove the Residual Responsivity Dependence of Spectral Instrument-Line-Shapes for Fourier Transform Spectrometers
8.03	Yong Chen	Reprocessing of Suomi NPP CrIS SDR and Impacts on Radiometric and Spectral Long-term Accuracy and Stability
8.04	Tim Hultberg	A global-local hybrid approach to retain new signals in hyperspectral PC products
8.05	Carmine Serio	Determination of the experimental error of high spectral resolution infrared observations from spectral residuals: application to IASI

9:45 – 10:15 Session 8b: Composition (poster introductions - 1 minute: no visual aids)

Chairs: Nigel Atkinson and Thomas August

8p.01	Olivier Membrive	Retrieval of the 3 main anthropogenic greenhouse gases from IASI: status and lessons learned for validation
8p.02	Guido Masiello	Physically-based simultaneous retrieval for CO, CO ₂ , CH ₄ , HNO ₃ , NH ₃ , OCS and N ₂ O from IASI observations and inter-comparison with in situ observations and AIRS, GOSAT, OCO-2 satellite products
8p.03	Vivienne Payne	Harnessing the power of sounders for atmospheric composition and chemical assimilation
8p.04	Virginie Capelle	A decade of Infrared dust aerosol characteristics (AOD and mean layer altitude) retrieved daily from IASI
8p.05	Alexander Polyakov	Technique and results of retrieving the total ozone content using satellite IR measurements from «Meteor-M» No 2
8p.06	Jonghyuk Lee	Uncertainty of temperature sounding caused by the variation of CO ₂ concentration
8p.07	Chien-Ben Chou	Using MTSAT-2 Visible Images to Retrieve Aerosol Optical Depth
8p.08	Dirceu Luis Herdies	Estimation of the Aerosols Direct Radiative Forcing in the Amazon region using MODIS
8p.09	Olivier Coopmann	Towards a strengthening of the coupling of Numerical Weather Prediction and Chemistry Transport Models to improve the retrieval of thermodynamic fields from infra-red passive sounders: The ozone case

8p.10	Olivier Coopmann	Greenhouse gases in-situ profiles from the APOGEE campaign in support to satellite infrared sounder assimilation
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10:15 – 10:45 Break and poster viewing 8b

10:45 – 12:15 Session 9a: Hyperspectral IR assimilation (oral presentations - 12 minutes)		
Chairs: Fiona Smith and Louis Garand		
9.01	Vincent Guidard	What is the impact of IASI in global NWP?
9.02	Norio Kamekawa	Assimilation of Suomi-NPP/CrIS radiances into the JMA's global NWP system
9.03	Marco Matricardi	The use of reconstructed radiances to assimilate the full IASI spectrum at ECMWF
9.04	Jun Li	Impact of assimilating the VIIRS-based CrIS cloud-cleared radiances on hurricane forecasts
9.05	Kirsti Salonen	Impact of hyperspectral IR radiances on wind analyses
9.06	David Santek	Feature-tracked 3D winds from hyperspectral infrared sounders: Status and requirements for future missions

12:15 – 12:35 Session 9b: Assimilation of IR observations (poster introductions - 1 minute: no visual aids)		
Chairs: Fiona Smith and Louis Garand		
9p.01	Reima Eresmaa	The current impact of infrared radiances in the ECMWF NWP system
9p.02	James Jung	Preparing for CrIS Full Spectral Resolution in the NCEP Global Forecast System
9p.03	Euijong Kang	CrIS channel selection for the KMA UM data assimilation based on an iterative method
9p.04	Kirsti Salonen	MTG-IRS level 2 data assimilation into the ECMWF model
9p.05	Young-Chan Noh	Impact of assimilation of a new set of IASI channels on the UM precipitation forecast over East Asia
9p.06	Alain Beaulne	Impact of assimilating multispectral radiances from Himawari and Meteosat satellites on global forecasts
9p.07	Chris Burrows	Assimilation of geostationary radiances at ECMWF
9p.08	Ruth B.E. Taylor	Use of geostationary imager clear-sky radiances in Met Office Global NWP
9p.09	Haixia Liu	Comparison among three cloud-clearing radiance products
9p.10	Seon Ki Park	Assessing Potential Impact of Air Pollutants Observations from Geostationary Satellite on Air Quality Prediction through OSSEs

12:35 – 13:30 Lunch

13:30 – 14:00 Poster viewing 9b

14:00 – 14:45 Session 10a: Land surface studies (oral presentations - 12 minutes)		
Chairs: Eva Borbas and Ben Ruston		
10.01	Reima Eresmaa	Assimilation of tropospheric-sensitive infrared radiances over land
10.02	Virginie Capelle	Impact of dust aerosols on the retrieval of IR land surface emissivity spectrum: a new simultaneous approach accounting for dust characteristics and surface temperature from IASI
10.03	Rory Gray	A Dynamic Infrared Land Surface Emissivity Atlas based on IASI Retrievals

14:45 – 15:10 Session 10b: Land surface studies (poster introductions - 1 minute: no visual aids)		
Chairs: Eva Borbas and Ben Ruston		
10p.01	Withdrawn	
10p.02	Eva Borbas	The status of the Combined ASTER and MODIS Emissivity Over Land (CAMEL) Product

10p.03	Chawn Harlow	MACSSIMIZE: An upcoming campaign to focus on the development and evaluation of Arctic snow emissivity models suitable for use in assimilation of satellite microwave sounder data
10p.04	Niels Bormann	The current forecast impact of surface-sensitive microwave radiances over land and sea-ice in the ECMWF system
10p.05	Jisoo Kim	The characteristics of the real-time land surface emissivity of the ATMS data for numerical weather prediction model
10p.06	Keyi Chen	Increased use of microwave humidity sounding data from the FY-3 series in the ECMWF assimilation system
10p.07	Cristina Lupu	Surface skin temperature for satellite data assimilation
10p.08	Sylvain Heilliette	Assimilation of land surface skin temperature observations derived from GOES imagery
10p.09	Guido Masiello	Implementation of a real-time Level 2 SEVIRI processor for the simultaneous physical retrieval of surface temperature and emissivity at global scale
10p.10	Hyun-Sung Jang	Use of surface observations as pseudo channels for improving AIRS temperature and moisture retrieval
10p.11	AK Mitra	Assessment of soil wetness variation for extreme events using direct broadcast receiving system at IMD
10p.12	Chunlei Meng	The Joint Land Data Assimilation System (JLDAS)

15:10 – 16:00 Break and poster session for 5b, 6b, 7b, 8b, 9b, 10b

16:00 – 17:00 Session 11a: Retrieval products (oral presentations - 12 minutes)

Chairs: Bomin Sun and Kathleen Strabala

11.01	Thomas August	The EUMETSAT operational IASI L2 products and services, from Global to Regional
11.02	Lihang Zhou (for Antonia Gambacorta)	Status of the NPP and J1 NOAA Unique Combined Atmospheric Processing System (NUCAPS) for atmospheric thermal sounding: recent algorithm enhancements and near real time users applications.
11.03	Sergio DeSouza-Machado	Single Footprint All-Sky Retrievals using a Fast, Accurate TwoSlab Cloud Representation
11.04	William Smith Sr.	Combining Polar Hyper-spectral and Geostationary Multi-spectral Sounding Data – A Method to Optimize Sounding Spatial and Temporal Resolution

17:00 – 17:20 Session 11b: Retrieval products and applications (poster introductions - 1 minute: no visual aids)

Chairs: Bomin Sun and Kathleen Strabala

11p.01	Quanhua (Mark) Liu	Overview of JPSS-1 and Suomi NPP ATMS SDR and EDR Products
11p.02	A.K. Sharma	Exploitation of Hyperspectral Sounder and Microwaves sounder Data Products generated at NOAA/NESDIS
11p.03	F. Di Paola	Retrieval of Temperature and Water Vapor vertical profile from ATMS Measurements with Random Forests technique
11p.04	M. Crapeau	Experimenting different a priori sources for optimal estimation retrievals with IASI
11p.05	Bill Smith (for Elisabeth Weisz)	Hyper-Spectral Sounder Derived Severe Weather Indices
11p.06	Nai-Yu Wang	Combining Imager and Lightning For Enhanced GOES-R Rain Estimates in the NWS Pacific Region
11p.07	Eva Borbas	The Suomi-NPP VIIRS Total Precipitable Water Product
11p.08	Junhyung Heo	Application of Cumulative Probability Distribution Function to Compositing Precipitable Water with Low Earth Orbit satellite data
11p.09	Rute Ferreira	Evaluating Satellite Estimates for Extreme Rainfall in the Southern of Brazil in high resolution
11p.10	Wei Dong	Structure Analysis of Heavy Precipitation Over the Eastern Slope of the Tibet Plateau Based on TRMM Data
11p.11	Elisabetta Ricciardelli	Analysis of heavy rainfall events occurred in Italy by using Microwave

		and Infrared Technique
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17:20 – 17:50 Poster viewing 11b

Saturday, 2 December 2017

8:30 – 12:30 Working group meetings (Break at 10:15 – 10:45)

- Advanced Sounders (Dieter Klaes and Bill Smith)
- Climate (Nathalie Selbach and Cheng-Zhi Zou)
- Radiative transfer and surface properties (Marco Matricardi and Benjamin Johnson)

Sunday, 3 December 2017

8:30 – 12:30 Working group meetings (Break at 10:15 – 10:45)

- NWP (Fiona Smith and Andrew Collard)
- Products and software (Nigel Atkinson and Liam Gumley)
- International (Stephen English and Peng Zhang)

Monday, 4 December 2017

8:30 – 9:45 Session 12a: Assimilation studies (oral presentations - 12 minutes)

Chairs: Vincent Guidard and Brett Candy

12.01	John Eyre	The effect of NWP model bias on radiance bias correction schemes
12.02	Wei Han	Constrained variational bias correction for satellite radiances assimilation
12.03	Benjamin Ruston	Radiance Bias Correction from an Alternative Analysis
12.04	Erin Jones	Benefits of Using a Variational Preprocessing Approach for the Assimilation of Satellite Radiances: An Application to Data Assimilation in Environmental Data Fusion
12.05	Sid Boukabara	Exploring Using Artificial Intelligence (AI) for NWP and Situational Awareness Applications. Application to Remote Sensing and Data Assimilation/Fusion

9:45 – 10:15 Session 12b: Assimilation studies (poster introductions - 1 minute: no visual aids)

Chairs: Vincent Guidard and Brett Candy

12p.01	Patrik Benacek	Satellite Bias Correction in Limited-Area Model ALADIN
12p.02	James Cameron	Comparison between global model and VarBC bias corrections in a UK regional model
12p.03	Ed Pavelin	Diagnosis of residual biases in the assimilation of AMSU-A
12p.04	Kristen Bathmann	Assimilating Infrared and Microwave Sounder Observations with Correlated Errors
12p.05	Peter Weston	Accounting for correlated observation error in the assimilation of ATMS
12p.06	William F. Campbell	Posterior Channel Selection for Satellite Radiances with Correlated Observation Error in Hybrid 4DVar System (NAVGEN)
12p.07	Hyoung-Wook Chun	Buddy check for radiance with analysis error variance
12p.08	Stuart Newman	A decade of improved fits to satellite observations at the Met Office
12p.09	Olaf Stiller	Observation impact diagnostics in an Ensemble Data Assimilation System
12p.10	Steve J. English	Data Assimilation Methodology Developments at ECMWF
12p.11	Louis Garand	Toward a coupled ocean-atmosphere data assimilation system: first impact examination from the viewpoint of satellite radiances
12p.12	Reima Eresmaa	Assimilation of satellite data in a coupled ocean-atmosphere system
12p.13	Bob Tubbs	Met Office Convective-Scale Satellite Data Assimilation

10:15 – 10:45 Break and poster viewing 12b

10:45 – 11:30 Session 13a: Sounding science and validation (oral presentations - 12 minutes)**Chairs: Sid Boukabara and Tim Hewison**

13.01	Tony Reale	Satellite Sounding Product Characteristic Performance and Impact of Satellite Overpass Time
13.02	Alexander Polyakov	Studies using spectral measurements of satellite atmospheric FTIR sounder IRFS-2
13.03	Bjorn Lambrigtsen	Sounding Science at the Jet Propulsion Laboratory

11:30 – 11:35 Session 13b: Retrieved products and validation (poster introductions - 1 minute: no visual aids)**Chairs: Sid Boukabara and Tim Hewison**

13p.01	Michael W. Chalfant	Retrieval of Cloud Properties at the Infrared Instrument FOV Using the CO2 Slicing Technique
13p.02	Alexander Polyakov	Validation of temperature sounding of the atmosphere from a board of «Meteor-M» No 2 satellite (IRFS-2 device)
13p.03	Sanjeev Singh	Identifying downburst events using INSAT-3D satellite system

11:35 – 12:15 Session 14: Space agency reports (Space agency poster introductions - 5 minutes: 2 slides)**Chairs: John Eyre and Alexander Uspensky**

14p.01	Peng Zhang (CMA)	Updates on CMA Meteorological Satellite Programs
14p.02	Dieter Klaes (EUMETSAT)	An update on EUMETSAT Programmes and Plans
14p.03	Mitch Goldberg	NOAA
14p.04	Kozo Okamoto	Status report of space agency: JMA and JAXA
14p.05	Alexander Uspensky	Russian Meteorological Satellite Programs

12:15 – 13:30 Lunch**13:30 – 14:00 Poster viewing 13b, 14****14:00 – 15:30 Session 15a: Future observations (oral presentations - 12 minutes)****Chairs: Dorothee Coppens and Fuzhong Weng**

15.01	Cyril Crevoisier	IASI-New generation: scientific objectives and foreseen validation
15.02	Likun Wang	A Study on the Benefits of Spatial Resolution for Next Generation Infrared Hyperspectral Sounder Instruments
15.03	Agnes Lim	Impact Analysis of LEO Hyperspectral Sensor IFOV size on the next generation high-resolution NWP model forecast performance
15.04	Will McCarty	An OSSE Investigating a Constellation of 4-5 μm Infrared Sounders
15.05	Ralf Bennartz	The TROPICS mission's sounding capabilities
15.06	Fuzhong Weng	Future Opportunities of Using Microwave Data from Small Satellites

15:30 – 15:50 Session 15b: Future observations (poster introductions - 1 minute: no visual aids)**Chairs: Dorothee Coppens and Fuzhong Weng**

15p.01	Francisco Bermudo	IASI-NG Program: General Status Overview
15p.02	Adrien Deschamps	Overview of the IASI-NG Level 1 Processing
15p.03	Flavia Lenti	Introduction to the IASI-NG principal components and L2 operational processor.
15p.04	Francesca Vittorioso	Preparing the assimilation of IASI-NG in NWP models: a first channel selection
15p.05	Cédric Goukenleuque	Preparing test data for the IRS Level 2 processor
15p.06	Zhenglong Li	Value-added Impact from Geostationary Hyperspectral Infrared Sounder on high impact weather forecasting – demonstration with quick regional OSSE
15p.07	Zhenglong Li	Using CIRAS and MicroMAS-2 to mitigate the data gap of CrIS and ATMS

15p.08	Nigel Atkinson	Level 1 processing for the Microwave Sounder on Metop-SG
15p.09	Fiona Smith	Evaluation of Laser Heterodyne Radiometry (LHR) for Numerical Weather Prediction Applications

15:50 – 16:50 Break and poster session 10b, 11b, 12b, 13b, 14, 15b

16:50 – 17:30 Working groups finalise reports

19:00 Banquet, including

- Presentation of prizes for best oral and poster presentations

Tuesday, 5 December 2017

9.00-10.15 Session 15: Working Group Reports (15 minutes)

Co-chairs: Mitch Goldberg and Niels Bormann

- RT (Marco Matricardi and Benjamin Johnson)
- Climate (Nathalie Selbach and Cheng-Zhi Zou)
- NWP (Andrew Collard and Fiona Smith)

10.15-10.45 BREAK

10.45-12.00 Session 15: Working Group Reports (15 minutes)

Co-chairs: Mitch Goldberg and Niels Bormann

- Advanced Sounders (Dieter Klaes and Bill Smith)
- International and Future Systems (Peng Zhang and Stephen English)
- Products and Software (Liam Gumley and Nigel Atkinson)

12.00-12.30 Session 16: Technical Sub-Group Reports (5 minutes)

Co-chairs: Mitch Goldberg and Niels Bormann

- Direct broadcast packages/DBNet (Liam Gumley and Mikael Rattenborg)
- RTTOV (James Hocking)
- CRTM (Benjamin Johnson)

12:30 – 13:30 Lunch