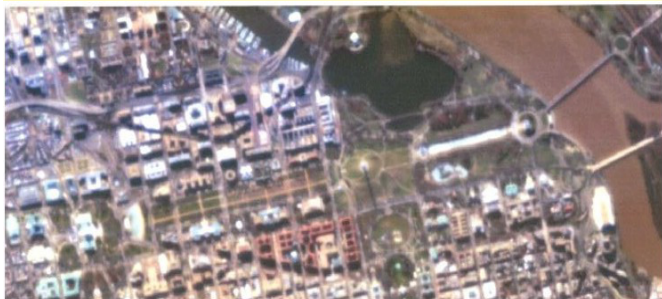


33rd Review of
**Atmospheric Transmission
Models Meeting**

*14-16 June 2011
National Heritage Museum
Lexington, Massachusetts*

ADVANCE PROGRAM



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ORGANIZING COMMITTEE

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Cover Photograph: Image of the Arlington Virginia, Potomac River, and Washington DC, obtained using TacSat-3's primary payload, the Air Force Research Laboratory Advanced Responsive Tactically-Effective Military Imaging Spectrometer

WORKSHOP LOCATION

The *33rd Review of Atmospheric Transmission Model Meeting* is being held 14-16 June 2011 at the National Heritage Museum in historic Lexington, Massachusetts.

Located nine miles northwest of Boston, Lexington is a country village turned prosperous suburb. The town is notable as the site of the opening shots (“the shot heard round the world”) of the Battle of Lexington and Concord, the first engagement of the American Revolutionary War. British troops marched from Boston to Lexington late on April 18, 1775. Patriots Paul Revere and William Dawes rode ahead to sound warning which came around midnight, followed about 5 hours later by some 700 British troops, en route to Concord, where they planned to destroy the rebels’ military supplies. Ordered to disperse, the colonists — fewer than 100 — stood their ground.

Guests may wish to tour the historical downtown area on foot, stopping at shops along the way, or visit recommended attractions which include **Lexington Green** (site of the first battle between the Minutemen and the Redcoats during the Revolutionary War), **Buckman Tavern**, and the **Hancock-Clarke House** (the residence in which Samuel Adams and John Hancock awoke to hear Paul Revere’s famous warning that British troops were on their way).

AIRLINE TRAVEL

Lexington is serviced by Boston’s Logan International Airport. Multiple rental car companies are located at the airport, or taxi service may be secured from the airport to the hotel of your choice (information on area hotels is provided on page 7).

MEETING VENUE

National Heritage Museum

33 Marrett Rd. (Route 2A)

Lexington, MA 02421

From Route I-95/128 ...

Take Exit 30A. This exit will put you onto Route 2A East (also known as Marrett Road). The Museum is located approximately 3 miles from the exit. The entrance is on your left — a brick wall and large iron gates.

From Route 495 ...

Take Route 2 East to Exit 55 Pleasant Street, Waltham and Lexington. At the end of the ramp, take a left onto Pleasant Street. Merge left onto Routes 4/225. At the end of the road, turn left onto Massachusetts Avenue. At the junction of Rte. 2A and Mass. Ave., take a left onto Route 2A West. The Museum entrance is your first right — a brick wall and large iron gates.

From Boston ...

Take Route 2 West to exit 56 (toward Lexington and Bedford). Turn right at the end of the ramp, following the sign for Routes 4/225. Turn right onto Routes 4/225, which then merges right onto Pleasant St. At the rotary, turn left onto Massachusetts Ave. At the junction of Rte. 2A and Mass. Ave., take a left onto Route 2A West. The Museum entrance is your first right — a brick wall and large iron gates.

From the Massachusetts Turnpike ...

Take Route I-95/128 and exit 15. This exit will put you onto Route 2A East (also known as Marrett Road). The Museum is located approximately 3 miles from the exit. Our entrance is on your left — a brick wall and large iron gates.

ACCOMMODATIONS

Individuals attending the *33rd Review of Atmospheric Transmission Models Meeting* are responsible for securing personal hotel accommodations. Following are hotels located in the immediate Lexington area. Additional accommodations may be found in neighboring towns which are minutes from the conference venue.

Those attending from outside the Boston area should note that all area hotels, including those in Lexington, are not within walking distance of the conference venue. Therefore, individuals will need either to secure a rental car for the duration of their stay or make arrangements with an attending colleague for daily transportation. Online travel sources may be helpful in obtaining the best rate for the hotels suggested.

Lexington, Massachusetts

Aloft Lexington
727-A Marrett Road, Lexington
781.761.1700

<http://www.starwoodhotels.com/preferredguest/property/overview/index.html?propertyID=3209>

Element Lexington
727 Marrett Road, Lexington
781.761.1750

<http://www.starwoodhotels.com/element/property/overview/index.html?propertyID=3210>

Quality Inn & Suites
440 Bedford Street, Lexington
781.861.0850

Additional hotel options are available in Burlington and Waltham, Massachusetts, located 3 miles northeast and 4 miles southwest of the conference venue, respectively.

GENERAL INFORMATION

CURRENCY

The unit of currency is the US dollar divided into 100 pennies. All conference payments must be made in US currency. Traveler's checks are honored in most banks, hotels and shops. Major credit cards are also widely accepted.

CURRENCY EXCHANGE

Guests are encouraged to exchange foreign currency at the arrival airport prior to securing ground transportation to Lexington.

MEALS

Continental breakfast, breaks, and lunch are included each day as part of the registration fee.

MESSAGES

Guests should provide hotel contact information to the appropriate persons for receiving telephone messages and faxes. See ACCOMMODATIONS.

PARKING

For those renting or driving personal vehicles, complimentary parking is available at the National Heritage Museum.

REGISTRATION

All attendees, including individuals who have been accepted to present a paper(s), must be registered to participate.

METHODS OF PAYMENT

Credit Cards — American Express, Mastercard and VISA will be accepted.

Checks — Checks must be payable in US\$ and drawn on a US bank. Checks should be made payable to the **2011 Transmission Meeting**.

†*Collective payments must be accompanied by a list of participant names and the details of payment for each person.*

††*Bank charges may not be deducted from the registration fee; attendees will be responsible for all fees deducted by both the sending and receiving financial institutions.*

PRE-REGISTRATION

Pre-registration prior to June 1 is strongly encouraged to avoid delays at check-in. **Lunches are guaranteed for pre-registrants only.**

REGISTRATION FEES

IEEE Member	\$325.00
Non-Member	\$375.00
Student	\$200.00

Materials, including a name badge which must be worn at all times while in attendance, certificate of participation, and a receipt of payment will be included in the registration packet provided each registered participant.

REGISTRATION

INCLUSIONS

The participant registration fee includes:

- admission to conference sessions
- continental breakfast, each day
- coffee breaks
- lunch, each day
- *Proceedings* on CD ROM (1 copy).

ON-SITE REGISTRATION AND CHECK-IN

All attendees are required to check-in at the Registration Desk upon arrival at the conference site. The Registration Desk is located adjacent the Farr Conference Center, which is to the right of the Museum main entrance.

REGISTRATION DESK

The Registration Desk will be open at the following times to assist you:

Tuesday	June 14	07:30 - 15:00
Wednesday	June 15	07:30 - 15:00
Thursday	June 16	07:30 - 10:00

CANCELLATION POLICY

Cancellations received prior to 03 June 2011 are entitled to a full refund less a \$50.00 processing fee. No refunds will be granted thereafter.

QUESTIONS

Questions may be directed to the meeting coordinator via telephone to 832.331.4022 or via email to steintammy@sbcglobal.net .

TECHNICAL PROGRAM

33rd Review of Atmospheric Transmission Models Meeting

*14-16 June 2011
National Heritage Museum
Lexington, Massachusetts*

SPONSORED BY ...



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Technical Program

All technical sessions will be held in the Maxwell Auditorium at the National Heritage Museum with breakfasts, breaks, and lunches, to be held in the Farr Conference Center.

NOTES:

Tuesday, June 14

7:30 REGISTRATION/CHECK-IN and
CONTINENTAL BREAKFAST
Farr Conference Center

MAXWELL AUDITORIUM

8:00 WELCOME

JOHN KEREKES

Vice President of Technical Activities
IEEE Geoscience and Remote Sensing Society

8:15 OPENING REMARKS

WILLIAM T. COOLEY, Colonel
USAF Materiel Wing Director
Space Vehicles Commander
Phillips Research Site

Tuesday, June 14

Session 1 – Image Processing

08:35 Active Volcano Monitoring Using a Space-Borne Imager

*Cipar, J., G. Anderson and T. Cooley,
Air Force Research Laboratory*

09:20 MATISSE-v2.0: New Functionalities and Comparison with MODIS Satellite Images

*Labarre, L., K. Caillault, S. Fauqueux,
C. Malherbe, A. Roblin, B. Rosier
and P. Simoneau, ONERA, France;
C. Schweitzer, K. Stein and N. Wendelstein,
Fraunhofer IOSB, Germany*

09:40 MODTRAN[®] Uses in Reflectance Retrieval for Cross-Calibration of Hyperion and Forward Modeling for Ground-Truth Characterization of AVIRIS

*McCorkel, J.,
National Ecological Observatory Network Inc.*

10:00 BREAK

Session 2 – MODTRAN[®] Applications

10:25 Validation of the MODTRAN[®] 5 Atmospheric Model Using the Moon as an Infrared Source

*Brendhagen, E.,
Norwegian Defence Research Establishment*

11:10 A Local Chemical Plume Model for MODTRAN[®]5

*Berk, A., R. Taylor and D. Robertson,
Spectral Sciences Inc.*

Tuesday, June 14

11:30 Retrievals of Ammonia and Formic Acid Using
TES: Applications to Forest Fire Smoke

*Alvarado, M.J., K.E. Cady-Pereira,
Y. Xiao and V.H. Payne,
Atmospheric and Environmental Research; D.B.
Millet, University of Minnesota; and J.A. Logan,
Harvard University*

11:50 Remote Detection of Volatile Organic
Compound Emissions from Combustion Flares

*Panfili, R., P. Vujkovic-Cvijin, X. Tan,
R. Kennett, R. Taylor, H. Dothe and L. Bernstein,
Spectral Sciences Inc.;
P. Smith and J. Thornock, University of Utah;
K. Gross, Air Force Institute of Technology;
and J. Seebold, Chevron Research
and Technology Company (retired)*

12:10 LUNCH

Session 3 – Longwave Issues

**13:10 Cooperative Atmospheric Measurement
Program (CAMP) Study**

Lewis, P., National Geospatial-Intelligence Agency

13:55 DRDC Work on Atmospheric Correction of
LWIR Hyperspectral Imagery

Lahaie, P., DRDC Valcartier, Canada

14:15 A Method for Direct Retrieval of
Atmospheric Transmittance from Satellite
Imagery

Schiller, S., Raytheon Space and Airborne Systems

14:35 BREAK

Blue highlighted type indicates invited guest speaker.

Tuesday, June 14

Session 4 – MODTRAN[®] 5.3 and Backgrounds

- 15:00 EOSPEC-LIB: A Model Library
Complementary to MODTRAN[®] 5.3
Dion, D., DRDC Valcartier, Canada; V. Ross, Aerex Inc., Canada; and M. Soucy, LTI, Canada
- 15:20 Experimental Validation of the MODTRAN[®] 5.3 Sea Surface Radiance Model
Ross, V., Aerex Inc., Canada; D. Dion, DRDC Valcartier, Canada; S. Fauqueux, ONERA, France; and D. St-Germain, DRDC Valcartier, Canada
- 15:40 Fast Monte Carlo-Assisted Simulation of Hyperspectral Earth Backgrounds
Richtsmeier, S., S. Adler-Golden, A. Berk and J.W. Duff, Spectral Sciences Inc.
- 16:00 MODTRAN[®] 5.3 Simulations of Changes in Shortwave and Longwave Spectra from Climate Change in the 21st Century
Feldman, D., Lawrence Berkeley National Laboratory

Wednesday, June 15

7:30 REGISTRATION/CHECK-IN and
CONTINENTAL BREAKFAST
Farr Conference Center

MAXWELL AUDITORIUM

Session 5 – High Altitude Effects

**08:00 Retrieval of Scientific Data Produced from
MIPAS Limb Emission Spectra**
*von Clarmann, T., and the IMK/IAA MIPAS Team,
KIT/IMK, Germany*

08:45 Calculations of Absorption at Frequencies
Near 5mm Using HITRAN and MPM
Roadcap, J.R., Air Force Research Laboratory

09:05 Earth Limb Infrared Clutter Model from
Measurements
*Kendra, M., Air Force Research Laboratory;
D. Mizuno, Boston College;
and K. Kraemer, Air Force Research Laboratory*

09:25 BREAK

Session 6 – Limb Emission / Airglow

**09:45 Recent Advances in Non-LTE from Satellite
Measurements**
*López-Puertas, M.,
Instituto de Astrofísica de Andalucía, CSIC, Spain*

10:30 Observation and Modeling of the Nightglow
Radiation in the OH Meinel Bands
*Simoneau, P., S. Derelle, J. Deschamps
and S. Rommeluere, ONERA/DOTA, France*

Blue highlighted type indicates invited guest speaker.

Wednesday, June 15

10:50 LUNCH (EXTENDED)

Session 7 – Line-by-Line Spectroscopy

**13:15 XML Implementation of the Harvard
HITRAN Database**

*Hill, C., and J. Tennyson,
University College London, UK*

14:00 Improving the Spectroscopic Line Lists of
Oxygen to Facilitate Calibration of Satellite
Remote-Sensing Observations

*Rothman, L., and I.E. Gordon,
Harvard-Smithsonian Center for Astrophysics;
and G.C. Toon, Jet Propulsion Laboratory*

14:20 Recent Updates to AER's Line By Line
Radiative Transfer Models

Payne, V., Atmospheric and Environmental Research

14:40 BREAK

Session 8 – Measurement Validation

**15:00 Atmospheric Chemistry Experiment (ACE)
Satellite**

Bernath, P., University of York, UK

15:45 The Polar Mesosphere Region as Seen by
SOFIE

*McHugh, M., M. Hervig, L. Deaver and L. Gordley,
GATS Inc.*

16:05 Surface Observation Input and Band Model
Validation in LEEDR Atmospheric
Characterization Package

*Via, M.F., R.M. Randall, S.T. Fiorino, R.J. Bartell and
A.D. Downs, Air Force Institute of Technology*

Thursday, June 16

7:30 REGISTRATION/CHECK-IN and
CONTINENTAL BREAKFAST
Farr Conference Center

MAXWELL AUDITORIUM

Session 9 – Polarization

**08:00 All-Sky Polarization Measurements and
Comparisons with P-Modtran and Other
Radiative Transfer Codes**

*Pust, N.J., A. Dahlberg and J.A. Shaw,
Montana State University*

08:45 Optical Polarization Modeling and
Analysis

*Meng, L., and J.P. Kerekes,
Rochester Institute of Technology*

09:05 The Spectral and Polarimetric Imagery
Collection Experiment (SPICE)

Romano, J.M., Precision Armament Laboratory

09:25 BREAK

Blue highlighted type indicates invited guest speaker.

Thursday, June 16

Session 10 – Solar Irradiance

- 09:55 Development and Validation of a Solar Irradiance Forecast System
Snell, H.E., M.A. Glennon, E.J. Mlawer, G.B. Gustafson, R.P. d'Entremont and M. Gioioso, Atmospheric and Environmental Research
- 10:15 Stratospheric Effects of Solar Spectral Irradiance Variations
Fontenla, J., LASP-University of Colorado; and G. Anderson, Air Force Research Laboratory
- 10:35 Typical Barrow Albedos Coupled with Solar Irradiance Variability: A Sensitivity Study
Anderson, G.P., Air Force Research Laboratory, and J. Fontenla, LASP-University of Colorado
- 10:55 Discussion

NOTES

