AGENDA

THIRD ANNUAL JPL AIRBORNE GEOSCIENCE WORKSHOP: AIRBORNE VISIBLE/INFRARED IMAGING SPECTROMETER (AVIRIS)

June 1 and 2, 1992
Von Karman Auditorium
Jet Propulsion Laboratory
Pasadena, California 91109

MONDAY, JUNE 1, 1992

7:15 a.m. Shuttle bus departs Pasadena Ritz-Carlton Hotel for JPL.

7:30 a.m. Registration and continental breakfast at JPL.

8:00 a.m. Welcome

8:30 a.m. In-Flight Calibration of the Spectral and Radiometric Characteristics of AVIRIS in 1991
Robert O. Green, James E. Conel, Carol J. Bruegge, Jack S. Margolis, Veronique Carrere, Gregg Vane, and Gordon Hoover

9:00 a.m. Using AVIRIS Images To Measure Temporal Trends in Abundance of Photosynthetic and Nonphotosynthetic Canopy Components
Susan L. Ustin, Milton O. Smith, Dar Roberts, John A. Gamon, and Christopher B. Field

9:30 a.m. Unmixing AVIRIS Data To Provide a Method for Vegetation Fraction Subtraction
J.A. Zamudio

10:00 a.m. Break

10:30 a.m. Mapping the Mineralogy and Lithology of Canyonlands, Utah With Imaging Spectrometer Data and the Multiple Spectral Feature Mapping Algorithm
Roger N. Clark, Gregg A. Swayze, and Andrea Gallagher

11:00 a.m. Spatial Resolution and Cloud Optical Thickness Retrievals
Rand E. Feind, Sundar A. Christopher, and Ronald M. Welch

11:30 a.m. Evaluation of Spatial Productivity Patterns in an Annual Grassland During an AVIRIS Overflight
John A. Gamon, Christopher B. Field, and Susan L. Ustin

12:00 noon Lunch

1:00 p.m. Hyperspectral Modeling for Extracting Aerosols From Aircraft/Satellite Data
G. Daniel Hickman and Michael J. Duggin

1:30 p.m. The Spectral Image Processing System (SIPS)—Software for Integrated Analysis of AVIRIS Data
F.A. Kruse, A.B. Lefkoff, J.W. Boardman, K.B. Heidebrecht, A.T. Shapiro, P.J. Barloon, and A.F.H. Goetz

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2:00 p.m. First Results From Analysis of Coordinated AVIRIS, TIMS, and ISM (French) Data for the Ronda (Spain) and Beni Bousera (Morocco) Peridotites
J.F. Mustard, S. Hurtrez, P. Pinet, and C. Sotin

2:30 p.m. AVIRIS Study of Death Valley Evaporite Deposits Using Least-Squares Band-Fitting Methods
J.K. Crowley and R.N. Clark

3:00 p.m. Break

3:30 p.m. A Field Measure of the "Shade" Fraction
Alan R. Gillespie, Milton O. Smith, and Donald E. Sabol

4:00 p.m. A Linear Spectral Matching Technique for Retrieving Equivalent Water Thickness and Biochemical Constituents of Green Vegetation
Bo-Cai Gao and Alexander F.H. Goetz

4:30 p.m. Poster Previews

5:00 p.m. Poster Previews

5:30 p.m. End of session.

5:45 p.m. Shuttle bus departs JPL for the Pasadena Ritz-Carlton Hotel.

6:30 p.m. Reception and poster sessions at the Pasadena Ritz-Carlton Hotel.

9:00 p.m. Close of reception and poster sessions.

AGENDA

THIRD ANNUAL JPL AIRBORNE GEOSCIENCE WORKSHOP:
POSTER SESSION

Monday, June 1, 1992
6:30 to 9:00 p.m.
Pasadena Ritz-Carlton Hotel

1. Use of AVIRIS Data to the Definition of Optimised Specifications for Land Applications With Future Spaceborne Imaging Spectrometers
J. Bodechtel

2. Primary Studies of Trace Quantities of Green Vegetation in Mono Lake Area Using 1990 AVIRIS Data
Zhikang Chen, Chris D. Elvidge, and David P. Groeneveld

3. JPL Activities on Development of Acousto-Optic Tunable Filter Imaging Spectrometer
Li-Jen Cheng, Tien-Hsin Chao, and George Reyes

4. Measuring Dry Plant Residues in Grasslands: A Case Study Using AVIRIS
Michael Fitzgerald and Susan L. Ustin

5. Analysis of AVIRIS San Pedro Channel Data: Methods and Applications
Richard B. Frost

6. Tracking Photosynthetic Efficiency With Narrow-Band Spectroradiometry
John A. Gamon and Christopher B. Field

7. Separation of Cirrus Cloud From Clear Surface From AVIRIS Data Using the 1.38-μm Water Vapor Band
Bo-Cai Gao and Alexander F.H. Goetz

8. Software for the Derivation of Scaled Surface Reflectances From AVIRIS Data
Bo-Cai Gao, Kathleen Heidebrecht, and Alexander F.H. Goetz

9. Integrating Remote Sensing Techniques at Cuprite, Nevada: AVIRIS, Thematic Mapper, and Field Spectroscopy
Bradley Hill, Greg Nash, Merrill Ridd, Phoebe Hauff, and Phil Ebel

10. Evaluation of AVIRISwiss-91 Campaign Data
K.I. Itten, P. Meyer, K. Staenz, T. Kellenberger, and M. Schaepman

11. AVIRIS Investigator's Guide
Howell Johnson

12. Oregon Transect: Comparison of Leaf-Level Reflectance With Canopy-Level and Modelled Reflectance
Lee F. Johnson, Frederic Baret, and David L. Peterson

13. AVIRIS as a Tool for Carbonatite Exploration: Comparison of SPAM and Mbandmap Data Analysis Methods
Marguerite J. Kingston and James K. Crowley

14. Expert System-Based Mineral Mapping Using AVIRIS
F.A. Kruse, A.B. Lefkoff, and J.B. Dietz

THIRD ANNUAL JPL AIRBORNE GEOSCIENCE WORKSHOP:
MONDAY POSTER SESSION (CONTINUED)

15. The EARSEC Programme in Relation to the 1991 MAC-Europe Campaign
Wim J. Looyen, Jean Verdebout, Benny M. Sorensen, Giancarlo Maracci, Guido Schmuck, and Alois J. Sieber

16. Preliminary Statistical Analysis of AVIRIS/TMS Data Acquired Over the Matera Test Site
Stefania Mattei and Sergio Vetrella

17. AVIRIS Data and Neural Networks Applied to an Urban Ecosystem
Merrill K. Ridd, Niles D. Ritter, Nevin A. Bryant, and Robert O. Green

18. Temporal Variation in Spectral Detection Thresholds of Substrate and Vegetation in AVIRIS Images
Donald E. Sabol, Jr., Dar Roberts, Milton Smith, and John Adams

19. Discussion of Band Selection and Methodologies for the Estimation of Precipitable Water Vapour From AVIRIS Data
Dena Schanzer and Karl Staenz

20. Abundance Recovery Error Analysis Using Simulated AVIRIS Data
William W. Stoner, Joseph C. Harsanyi, William H. Farrand, and Jennifer A. Wong

21. Multitemporal Diurnal AVIRIS Images of a Forested Ecosystem
Susan L. Ustin, Milton O. Smith, and John B. Adams

22. A Comparison of LOWTRAN-7 Corrected Airborne Visible/Infrared Imaging Spectrometer (AVIRIS) Data With Ground Spectral Measurements
Pengyang Xu and Ronald Greeley

23. Discrimination Among Semi-Arid Landscape Endmembers Using the Spectral Angle Mapper (SAM) Algorithm
Roberta H. Yuhas, Alexander F.H. Goetz, and Joe W. Boardman

24. Empirical Relationships Among Atmospheric Variables From Rawinsonde and Field Data as Surrogates for AVIRIS Measurements: Estimation of Regional Land Surface Evapotranspiration
James E. Conel, Gordon Hoover, Anne Nolin, Ron Alley, and Jack Margolis

AGENDA

THIRD ANNUAL JPL AIRBORNE GEOSCIENCE WORKSHOP: AIRBORNE VISIBLE/INFRARED IMAGING SPECTROMETER (AVIRIS)

June 1 and 2, 1992
Von Karman Auditorium
Jet Propulsion Laboratory
Pasadena, California 91109

TUESDAY, JUNE 2, 1992

7:15 a.m. Shuttle bus departs Pasadena Ritz-Carlton Hotel for JPL.

7:30 a.m. Registration and continental breakfast at JPL.

8:00 a.m. Mapping the Spectral Variability in Photosynthetic and Non-Photosynthetic Vegetation, Soils and Shade Using AVIRIS
Dar A. Roberts, Milton O. Smith, Donald E. Sabol, John B. Adams, and Susan Ustin

8:30 a.m. Volcanic Thermal Features Observed by AVIRIS
Clive Oppenheimer, David Pieri, Veronique Carrere, Michael Abrams, David Rothery, and Peter Francis

9:00 a.m. Retrieval of Biophysical Parameters With AVIRIS and ISM—The Landes Forest, South West France
F. Zagolski, J.P. Gastellu-Etchegorry, E. Mougin, G. Giordano, G. Marty, T. Le Toan, and A. Beaudoin

9:30 a.m. Ground-Truthing AVIRIS Mineral Mapping at Cuprite, Nevada
Gregg Swayze, Roger N. Clark, Fred Kruse, Steve Sutley, and Andrea Gallagher

10:00 a.m. Break

10:30 a.m. Exploring the Remote Sensing of Foliar Biochemical Concentrations With AVIRIS Data
Geoffrey M. Smith and Paul J. Curran

11:00 a.m. Seasonal and Spatial Variations in Phytoplanktonic Chlorophyll in Eutrophic Mono Lake, California, Measured With the Airborne Visible and Infrared Imaging Spectrometer (AVIRIS)
John M. Melack and Mary Gastil

11:30 a.m. AVIRIS Calibration and Application in Coastal Oceanic Environments
Kendall L. Carder

12:00 noon Lunch

1:00 p.m. Mapping Vegetation Types With the Multiple Spectral Feature Mapping Algorithm in Both Emission and Absorption
Roger N. Clark, Gregg A. Swayze, Christopher Koch, and Cathy Ager

THIRD ANNUAL JPL AIRBORNE GEOSCIENCE WORKSHOP: AIRBORNE VISIBLE/INFRARED IMAGING SPECTROMETER (AVIRIS)

1:30 p.m. Multiple Dataset Water-Quality Analyses in the Vicinity of an Ocean Wastewater Plume
Michael Hamilton, Curtiss O. Davis, W. Joseph Rhea, and Jeannette van den Bosch

2:00 p.m. MAC Europe 91: Evaluation of AVIRIS, GER Imaging Spectrometry Data for the Land Application Testsite Oberpfaffenhofen
F. Lehmann, R. Richter, H. Rothfuss, K. Werner, P. Hausknecht, A. Müller, and P. Strobl

2:30 p.m. Using Endmembers in AVIRIS Images To Estimate Changes in Vegetative Biomass
Milton O. Smith, John B. Adams, Susan L. Ustin, and Dar A. Roberts

3:00 p.m. Break

3:30 p.m. Atmospheric Correction of AVIRIS Data in Ocean Waters
Gregory Terrie and Robert Arnone

4:00 p.m. The 1991 AVIRIS/POLDER Experiment in Camargue, France
F. Baret, C. Leprieur, S. Jacquemoud, V. Carrère, X.F. Gu, M. Steven, V. Vanderbilt, J.F. Hanocq, S. Ustin, G. Rondeaux, C. Daughtry, L. Biehl, R. Pettigrew, D. Modro, H. Horoyan, T. Sarto, C. Despontin, and H. Razafindraibe

4:30 p.m. AVIRIS Sensor and Ground Data System: Status and Plans
Thomas Chrien and Earl Hansen

5:00 p.m. Wrap up.

5:30 p.m. End of AVIRIS Workshop.

5:45 p.m. Shuttle bus departs JPL for the Pasadena Ritz-Carlton Hotel.

AGENDA

THIRD ANNUAL JPL AIRBORNE GEOSCIENCE WORKSHOP:
THERMAL INFRARED MULTISPECTRAL SCANNER
(TIMS)

June 3, 1992
Von Karman Auditorium
Jet Propulsion Laboratory
Pasadena, California 91109

WEDNESDAY, JUNE 3, 1992

7:15 a.m.	Shuttle bus departs Pasadena Ritz-Carlton Hotel for JPL.
7:30 a.m.	Registration and continental breakfast at JPL.
8:00 a.m.	Welcome
8:30 a.m.	TIMS Performance Evaluation Summary *Bruce Spiering, G. Meeks, J. Anderson, S. Jaggi, and S. Kuo*
	A Quantitative Analysis of TIMS Data Obtained on the Learjet 23 at Various Altitudes *S. Jaggi*
	Analysis of TIMS Performance Subjected to Simulated Wind Blast *S. Jaggi and S. Kuo*
9:30 a.m.	Sensitivity of Blackbody Reference Panels to Wind Blast *Gordon Hoover*
10:00 a.m.	Break
10:30 a.m.	Preliminary Analysis of TIMS Performance on the ER-2 *S.J. Hook, V.J. Realmuto, and R.E. Alley*
11:00 a.m.	Comparison of Preliminary Results From Airborne ASTER Simulator (AAS) With TIMS Data *Yoshiaki Kannari, Franklin Mills, Hiroshi Watanabe, Teruya Ezaka, Tatsuhiko Narita, and Sheng-Huei Chang*
11:30 a.m.	Simulation of ASTER Data Using AVIRIS Images *Michael Abrams*
12:00 noon	Lunch
1:00 p.m.	Application of Split Window Technique to TIMS Data *Tsuneo Matsunaga, Shuichi Rokugawa, and Yoshinori Ishii*
1:30 p.m.	Atmospheric Corrections for TIMS Estimated Emittance *T.A. Warner and D.W. Levandowski*
2:00 p.m.	An Algorithm for the Estimation of Bounds on the Emissivity and Temperatures From Thermal Multispectral Airborne Remotely Sensed Data *S. Jaggi, D. Quattrochi, and R. Baskin*

THIRD ANNUAL JPL AIRBORNE GEOSCIENCE WORKSHOP: THERMAL INFRARED MULTISPECTRAL SCANNER (TIMS)

2:30 p.m. Multi-Resolution Processing for Fractal Analysis of Airborne Remotely Sensed Data
S. Jaggi, D. Quattrochi, and N. Lam

3:00 p.m. Break

3:30 p.m. Preliminary Analysis of Thermal-Infrared Multispectral Scanner Data of the Iron Hill, Colorado Carbonatite-Alkalic Rock Complex
Lawrence C. Rowan, Kenneth Watson, and Susanne H. Miller

4:00 p.m. The Use of TIMS for Mapping Different Pahoehoe Surfaces: Mauna Iki, Kilauea
Scott K. Rowland

4:30 p.m. Ejecta Patterns of Meteor Crater, Arizona Derived From the Linear Un-Mixing of TIMS Data and Laboratory Thermal Emission Spectra
Michael S. Ramsey and Philip R. Christensen

5:00 p.m. The Use of TIMS Data To Estimate the SO_2 Concentrations of Volcanic Plumes: A Case Study at Mount Etna, Sicily
Vincent J. Realmuto

5:30 p.m. End of TIMS Workshop.

5:45 p.m. Shuttle bus departs JPL for the Pasadena Ritz-Carlton Hotel.

AGENDA

THIRD ANNUAL JPL AIRBORNE GEOSCIENCE WORKSHOP:
AIRBORNE SYNTHETIC APERTURE RADAR
(AIRSAR)

June 4 and 5, 1992
Von Karman Auditorium
Jet Propulsion Laboratory
Pasadena, California 91109

THURSDAY, JUNE 4, 1992

7:15 a.m. Shuttle bus departs Pasadena Ritz-Carlton Hotel for JPL.

7:30 a.m. Registration and continental breakfast at JPL.

8:00 a.m. Welcome

8:30 a.m. The NASA/JPL Three-Frequency AIRSAR System
J. van Zyl, R. Carande, Y. Low, T. Miller, and K. Wheeler

9:00 a.m. A Snow Wetness Retrieval Algorithm for SAR
Jiancheng Shi and Jeff Dozier

9:30 a.m. Comparison of JPL-AIRSAR and DLR E-SAR Images from the MAC Europe '91 Campaign Over Testsite Oberpfaffenhofen: Frequency and Polarization Dependent Backscatter Variations From Agricultural Fields
C. Schmullius and J. Nithack

10:00 a.m. Break

10:30 a.m. Monitoring Environmental State of Alaskan Forests With AIRSAR
Kyle C. McDonald, JoBea Way, Eric Rignot, Cindy Williams, Les Viereck, and Phylis Adams

11:00 a.m. Comparison of Modeled Backscatter With SAR Data at P-Band
Yong Wang, Frank W. Davis, and John M. Melack

11:30 a.m. SAR Backscatter From Coniferous Forest Gaps
John L. Day and Frank W. Davis

12:00 noon Lunch

1:00 p.m. Panel Discussion on Future Emphasis of the AIRSAR System
J. van Zyl, Moderator

1:30 p.m. Retrieval of Pine Forest Biomass Using JPL AIRSAR Data
A. Beaudoin, T. Le Toan, F. Zagolski, C.C. Hsu, H.C. Han, and J.A. Kong

2:00 p.m. Characterization of Wetland, Forest, and Agricultural Ecosystems in Belize With Airborne Radar (AIRSAR)
Kevin O. Pope, Jose Maria Rey-Benayas, and Jack F. Paris

2:30 p.m. Strategies for Detection of Floodplain Inundation With Multi-Frequency Polarimetric SAR
Laura L. Hess and John M. Melack

THIRD ANNUAL JPL AIRBORNE GEOSCIENCE WORKSHOP:
AIRBORNE SYNTHETIC APERTURE RADAR
(AIRSAR)

3:00 p.m.	Break
3:30 p.m.	Supervised Fully Polarimetric Classification of the Black Forest Test Site: From MAESTRO1 to MAC Europe *G. De Grandi, C. Lavalle, H. De Groof, and A. Sieber*
4:00 p.m.	Relating Multifrequency Radar Backscattering to Forest Biomass: Modeling and AIRSAR Measurement *Guoqing Sun and K. Jon Ranson*
4:30 p.m.	Poster Previews
5:00 p.m.	Poster Previews
5:30 p.m.	End of session.
5:45 p.m.	Shuttle bus departs JPL for the Pasadena Ritz-Carlton Hotel.
6:30 p.m.	Reception and poster sessions at the Pasadena Ritz-Carlton Hotel.
9:00 p.m.	Close of reception and poster sessions.

AGENDA

THIRD ANNUAL JPL AIRBORNE GEOSCIENCE WORKSHOP:
POSTER SESSION

Thursday, June 4, 1992
6:30 to 9:00 p.m.
Pasadena Ritz-Carlton Hotel

1. Processing of AIRSAR Polarimetric Data for Soil Moisture Estimation Over Mahantango Watershed Area
K.S. Rao

2. Evaluation of Polarimetric SAR Parameters for Soil Moisture Retrieval
Jiancheng Shi, Jakob J. van Zyl, and Edwin T. Engman

3. Interaction Types and Their Like-Polarization Phase-Angle Difference Signatures
Jack F. Paris

4. Application of Modified VICAR/IBIS GIS to Analysis of July 1991 Flevoland AIRSAR Data
L. Norikane, B. Broek, and A. Freeman

5. Radar Analysis and Visualization Environment (RAVEN): Software for Polarimetric Radar Analysis
K.S. Kierein-Young, A.B. Lefkoff, and F.A. Kruse

6. Measuring Ocean Coherence Time With Dual-Baseline Interferometry
Richard E. Carande

7. A Bibliography of Global Change, Airborne Science, 1985-1991
Edwin J. Sheffner and James G. Lawless

8. ATTIRE (Analytical Tools for Thermal Infrared Engineering)—A Thermal Sensor Simulation Package
S. Jaggi

9. Kilauea Data Set Complied for Distribution on Compact Disc
Lori Glaze, George Karas, Sonia Chernobieff, Elsa Abbott, and Earnie Paylor

10. The JPL Spectral Library 0.4 to 2.5 Micrometers
Simon J. Hook, Cindy I. Grove, and Earnest D. Paylor II

11. Lossless Compression of AVIRIS Data: Comparison of Methods and Instrument Constraints
R.E. Roger, J.F. Arnold, M.C. Cavenor, and J.A. Richards

12. Simulation of AVHRR-K Band Ratios With AVIRIS
Melanie A. Wetzel and Ronald M. Welch

13. Soil Conservation Applications With C-Band SAR
B. Brisco, R.J. Brown, J. Naunheimer, and D. Bedard

THIRD ANNUAL JPL AIRBORNE GEOSCIENCE WORKSHOP:
THURSDAY POSTER SESSION (CONTINUED)

14. Comparison of Edges Detected at Different Polarisations in MAESTRO Data
Ronald G. Caves, Peter J. Harley, and Shaun Quegan

15. Identification of Erosion Hazards in a Mediterranean Environment
M. Altherr, J. Hill, and W. Mehl

AGENDA

THIRD ANNUAL JPL AIRBORNE GEOSCIENCE WORKSHOP:
AIRBORNE SYNTHETIC APERTURE RADAR
(AIRSAR)

June 4 and 5, 1992
Von Karman Auditorium
Jet Propulsion Laboratory
Pasadena, California 91109

FRIDAY, JUNE 5, 1992

7:15 a.m. Shuttle bus departs Pasadena Ritz-Carlton Hotel for JPL.

7:30 a.m. Registration and continental breakfast at JPL.

8:00 a.m. Oceanic Features Detected by SAR in the Mediterranean Sea During the MAC Europe '91 Campaign
Werner Alpers

8:30 a.m. SAR Observations in the Gulf of Mexico
David Sheres

9:00 a.m. Investigation of AIRSAR Signatures of the Gulf Stream
G.R. Valenzuela, J.S. Lee, D.L. Schuler, G.O. Marmorino, F. Askari, K. Hoppel, J.A.C. Kaiser, and W.C. Keller

9:30 a.m. Mapping of Sea Bottom Topography
C.J. Calkoen, G.J. Wensink, and G.H.F.M. Hesselmans

10:00 a.m. Break

10:30 a.m. Sea Bottom Topography Imaging With SAR
M.W.A. van der Kooij, G.J. Wensink, and J. Vogelzang

11:00 a.m. AIRSAR Surveys of Upper-Ocean Fronts Off California and Hawaii
P. Flament

11:30 a.m. Preliminary Results of Polarization Signatures for Glacial Moraines in the Mono Basin, Eastern Sierra Nevada
Richard R. Forster, Andrew N. Fox, and Bryan Isacks

12:00 noon Lunch

1:00 p.m. Detecting Surface Roughness Effects on the Atmospheric Boundary Layer Via AIRSAR Data: A Field Experiment in Death Valley, California
Dan G. Blumberg and Ronald Greeley

1:30 p.m. Extraction of Quantitative Surface Characteristics From AIRSAR Data for Death Valley, California
K.S. Kierein-Young and F.A. Kruse

2:00 p.m. The TOPSAR Interferometric Radar Topographic Mapping Instrument
Howard A. Zebker, Søren N. Madsen, Jan Martin, Giovanni Alberti, Sergio Vetrella, and Alessandro Cucci

THIRD ANNUAL JPL AIRBORNE GEOSCIENCE WORKSHOP:
AIRBORNE SYNTHETIC APERTURE RADAR
(AIRSAR)

2:30 p.m. Evaluation of the TOPSAR Performance by Using Passive and Active Calibrators
G. Alberti, A. Moccia, S. Ponte, and S. Vetrella

3:00 p.m. Break

3:30 p.m. Fitting a Three-Component Scattering Model to Polarimetric SAR Data
A. Freeman and S. Durden

4:00 p.m. Application of Symmetry Properties to Polarimetric Remote Sensing With JPL AIRSAR Data
S.V. Nghiem, S.H. Yueh, R. Kwok, and F.K. Li

4:30 p.m. External Calibration of Polarimetric Radar Images Using Distributed Targets
Simon H. Yueh, S.V. Nghiem, and R. Kwok

5:00 p.m. Wrap up.

5:30 p.m. End of AIRSAR Workshop.

5:45 p.m. Shuttle bus departs JPL for the Pasadena Ritz-Carlton Hotel.