

PRELIMINARY PROGRAM

WORKSHOP ON THERMAL EMISSION SPECTROSCOPY AND ANALYSIS OF DUST, DISKS, AND REGOLITHS APRIL 28–30, 1999 HOUSTON, TEXAS

*To view the abstract for a particular presentation, simply click on the title using the
“hand” tool of the Acrobat Reader.*

Wednesday, April 28, 1999

7:30 – 8:30 a.m. Registration

8:30 a.m. Welcome, Introductory Remarks: Ann L. Sprague

OBSERVATIONS I

8:35 a.m.

Chair: David K. Lynch

8:35 a.m. Roush T. L.* (Invited)

Thermal Emission Spectroscopy of Mars Atmosphere, Dust, and Regolith

9:30 a.m. Morris P. W.* de Graauw Th. Lellouch E. Henderson B. G. Encrenaz T. Erard S.
Feuchtgruber H. Burgdorf M. Davis G. R. Griffin M. J.

Infrared Spectroscopy of Mars with the ISO Short Wavelength Spectrometer

9:50 a.m. Kirkland L. E.* Herr K. C.

Utilizing Night Spectra of Mars for Mineralogy

10:10 a.m. BREAK

POSTER PREVIEWS

10:25 a.m. Kemper F. Sylvester R. J. Waters L. B. F. M. de Jong T. Barlow M. J. Molster F. J.
Tielens A. G. G. M.

Silicates as Probes of the Mass Loss History of Oxygen-rich Evolved Stars

10:28 a.m. Colomé C.

*First Detection of Polarization in the CO Bandhead Emission in Young Stellar Objects:
A Signature of the Inner Regions of Disks in SSV 13 and DG Tau*

10:31 a.m. Dunkin S. K. Barlow M. J.

Axisymmetric Modeling of Silicate Circumstellar Disks

10:34 a.m. Hofmeister A. M. Speck A. K. Rosen L.

*Problems in Infrared Laboratory Spectroscopy of Silicon Carbide Resulting from High
Extinction Coefficients: Inferences from Nanocrystals and Quantitative Methods*

10:37 a.m. Lim T. L. Molster F. J. Sylvester R. J. Barlow M. J. Waters L. B. F. M.

Dust Emission Features in the ISO Spectrum of NGC 6302

- 10:40 a.m. Koller J. Kimeswenger S.
Modeling the Infrared Emission of Dust in Born-Again Planetary Nebulae
- 10:43 a.m. Vinkovic D. Miroshnichenko A. Ivezić Z. Elitzur M.
Dust Emission from Herbig Ae/Be Stars: Evidence for Disks and Envelopes
- 10:46 a.m. Hony S. Sylvester R. J. Waters L. B. F. M. Barlow M. J.
Transient Dust Features in Carbon-rich Circumstellar Envelopes of Evolved Stars
- 10:49 a.m. Morris P. W. Heras A. M. Vandenbussche B. Dijkstra R.
Asteroid 4 Vesta as Seen with the ISO Short Wavelength Spectrometer
- 10:52 a.m. Clayton G. C. Wolff M. J. Gordon K. D. Misselt K. A.
Interpretation of Extragalactic Extinction Measurements Using the Maximum Entropy Method
- 10:55 a.m. Potter A. E. Cooper B. L. Killen R. M. Morgan T. H.
Thermal Emission Spectra of Mercury
- 10:58 a.m. Shkuratov Yu. G.
Thermal Emission Indicatrix for Rough Surfaces
- 11:01 a.m. Stankevich D. G.
Shadow Effects in Regolith-like Media
- 11:04 a.m. Starukhina L. V.
Computer Simulation of Thermal Emission Spectra of Planetary Regoliths
- 11:07 a.m. Meeus G. Waelkens C.
A Comparative Study of Infrared Spectral Features in Herbig Ae/Be Stars

OBSERVATIONS I (*Continued*)

- 11:10 a.m. Lagerros J. S. V.* Müller T. G. Klaas U. Erikson A.
ISOPHOT Polarization Measurements of the Asteroids 6 Hebe and 9 Metis at 25 μ m
- 11:30 a.m. Witteborn F. C.* Roush T. L. Cohen M.
Thermal Emission Spectroscopy of 1 Ceres: Evidence for Olivine
- 11:55 a.m. Malfait K.* Waelkens C.
ISO Spectroscopy of Circumstellar Dust Disks Surrounding “ISO”lated Herbig Ae/Be Stars, Their Evolution, and the Relationship with Our Solar System
- 12:15 – 1:30 p.m. LUNCH BREAK
- 1:30 – 2:30 p.m. POSTER SESSION I
All Posters
All Authors

Wednesday, April 28, 1999

MODELING AND THEORY I: MODERN INSTRUMENTS

2:30 p.m.

Chair: Diane H. Wooden

- 2:30 p.m. Hapke B. W.* (Invited)
Theoretical Modeling of Radiative Transfer in Planetary Regoliths
- 3:30 p.m. BREAK
- 3:50 p.m. Van Cleve J.* (Invited)
Thermal Emission Spectroscopy with SIRTf (also poster)
- 4:10 p.m. Lacy J. H.* Richter M. J. Jaffe D. T. Hemenway M. K. (Invited)
EXES: A Versatile Midinfrared Spectrograph for SOFIA (also poster)
- 4:30 p.m. Dotson J.* Erickson E. Haas M. Colgan S. Simpson J. Telesco C. Wolf J.
Young E. (Invited)
AIRES: An Airborne Infrared Echelle Spectrometer for SOFIA (also poster)
- 4:50 p.m. Ruff S. W.* (Invited)
Development of Thermal Infrared Emission Spectroscopy for Geological Investigations of Earth and Mars (also poster)
- 5:00 – 6:00 p.m. OPEN DISCUSSION Ann L. Sprague, Moderator
- 6:00 – 7:30 p.m. SOCIAL and POSTER SESSION II
All Posters
All Authors

Thursday, April 29, 1999

8:30 a.m. Welcome, Introductory Remarks: Ann L. Sprague

LABORATORY INVESTIGATIONS I

8:35 a.m.

Chair: Bruce Hapke

- 8:35 a.m. Henning Th.* (Invited)
Optical Properties of Cosmic Dust Analogs
- 9:30 a.m. Fonti S.* Blanco A. Blecka M. I. De Carlo F. Orofino V. Solazzo S.
Laboratory Measurements of Spectral Emissivity of Materials Analogs to the Martian Soil and Dust
- 9:50 a.m. BREAK
- 10:05 a.m. Nuth J. A. III* Rietmeijer F. J. M. Hallenbeck S. L. Withey P. A. (Invited)
Nucleation, Growth, Annealing and Coagulation of Refractory Oxides and Metals: Recent Experimental Progress and Applications to Astrophysical Systems
- 11:05 a.m. Speck A. K.* Hofmeister A. M. Barlow M. J.
Silicon Carbide — The Problem with Laboratory Spectra
- 11:25 a.m. Mutschke H.* Clement D. Henning Th.
Effects of Grain Morphology and Impurities on the Infrared Spectra of Silicon Carbide Particles
- 11:45 a.m. Bowey J. E.* Adamson A. J. Speck A. K.
The Mineralogical Evolution of Silicate Dust in Interstellar Environments
- 12:05 – 1:30 p.m. LUNCH
- 1:30 – 2:15 p.m. POSTER SESSION III
All Posters
All Authors

Thursday, April 29, 1999

OBSERVATIONS II
2:30 p.m.
Chair: Michael L. Sitko

- 2:15 p.m. Waters R.* (Invited)
Solid State Spectroscopy of Circumstellar Dust: ISO Results
- 3:15 p.m. Molster F. J.* Waters L. B. F. M.
Crystalline Silicates: From Nothing to Main Thing
- 3:35 p.m. Crovisier J.* Leech K. Bockelee-Morvan D. Lellouch E. Brooke T. Y. Hanner M. S.
Altieri B. Keller H. U. Lim T. Encrenaz T. Salama A. Griffin M. de Graauw T.
van Dishoeck E. Knacke R. F.
*The Thermal Infrared Spectra of Comets Hale-Bopp and 103P/Hartley 2 Observed with the
Infrared Space Observatory*
- 3:55 p.m. BREAK
- 4:10 p.m. Wooden D. H.*
Abundant Cool Magnesium-rich Pyroxene Crystals in Comet Hale-Bopp
- 4:30 p.m. Cohen M.* Walker R. G. Witteborn F. C. (Invited)
Building a Network of Self-Consistent Mid-Infrared Calibration Stars
- 5:30 – 6:30 p.m. OPEN DISCUSSION David K. Lynch, Moderator

Friday, April 30, 1999

8:30 a.m. Welcome, Introductory Remarks: Ann L. Sprague

MODELING, THEORY, OBSERVATIONS, AND LABORATORY

8:35 a.m.

Chair: Jeffrey Van Cleve

8:35 a.m. Lynch D. K.* Mazuk S. (Invited)
Adventures in Modeling Thermal Emission Spectra of Comets

9:30 a.m. Bowey J. E.* Adamson A. J.
A Disk Model for the 10- μ m Spectra of YSOs with Dust-dominated Continua

9:50 a.m. Nenkova M.* Ivezić Z. Elitzur M.
DUSTY: A Publicly Available Code for Continuum Radiative Transfer in Astrophysical Environments

10:10 a.m. BREAK

10:25 a.m. Bradley J.* (Invited)
Comparison of Collected Interplanetary Dust Particles with Dust in Space

11:15 a.m. Serabyn E.*
Extrazodiacal Light Detection Potential with the Keck Interferometer

11:35 a.m. Wagner C.* (Invited)
Thermal Emission Spectroscopy of Laboratory Regoliths

12:15 – 1:30 p.m. LUNCH

Friday, April 30, 1999

MODELING, THEORY, OBSERVATIONS, AND LABORATORY (*Continued*)

1:30 p.m.

Chair: Josef Koller

- 1:30 p.m. Sprague A. L.* (Invited)
Thermal Emission Spectroscopy of Solar System Regoliths
- 2:20 p.m. OPEN DISCUSSION Michael Sitko, moderator
WRAP-UP and SYNTHESIS
- 3:20 p.m. PROCEEDINGS PUBLICATION Michael Sitko, Proceedings Editor
- 3:40 p.m. WORKSHOP ADJOURNS