

44th Vernadsky-Brown Microsymposium on Comparative Planetology
October 9-11, 2006

Programme

Monday October 9

10:00 – 10:15 E.M. Galimov and J.W. Head, Welcome and introduction.

10:15 – 12:45 Session REMOTE SENSING, L.V. Ksanfomality and R.L. Klima - Chairpersons.

10:15 – 10:45 Ksanfomality L.V. IMAGES OF UNKNOWN PORTION OF MERCURY'S SURFACE.

10:45 – 11:15 Klima R.L. and Pieters C.M. PYROXENE SPECTROSCOPY: DEVELOPING TOOLS TO CHARACTERIZE IGNEOUS PROCESSES ON THE INNER PLANETS.

11:15 – 11:45 Shevchenko V.V., Pinet P.C., Chevrel S., Daydou Y., Skobeleva T.P., Kvaratskhelia O.I., and Rosemberg C. SPECTRAL FEATURES OF THE AVALANCHE DEPOSITS IN LUNAR CRATER REINER.

11:45 – 12:15 Busarev V.V., Prokofyeva V.V., and Bochkov V.V. A COMBINED SPECTRAL-FREQUENCY METHOD OF INVESTIGATIONS OF SMALL OR DISTANT PLANETS.

12:15 – 12:45 Belskaya I.N., Ovcharenko A.A., Psarev V.A., and Shkuratov Yu.G. ALBEDOS OF TRANS-NEPTUNIAN OBJECTS: EVIDENCE FROM OPPOSITION EFFECT STUDY.

12:45 – 14:00 Lunch break

14:00 – 16:00 Session REMOTE SENSING, cont., V.V. Shevchenko and I.A. Dulova - Chairpersons.

14:00 – 14:30 Korokhin V.V., Shkuratov Yu.G., Stankevich D.G., Kaydash V.G., Pieters C.M., and Mall U. PROGNOSES OF TiO₂ ABUNDANCE IN LUNAR SOIL USING CLEMENTINE UVVIS MAPS AND LSCC DATA: NON-LINEAR APPROACH.

14:30 – 15:00 Evdokimova N.A., Kuzmin R.O., Rodin A.V., Fedorova A.A., Bibring J.-P., and OMEGA Team. MAPPING OF THE WATER ICE AND BOUND WATER SPECTRAL INDICES IN THE NORTHERN POLAR REGION OF MARS, BASED ON OMEGA (MARS EXPRESS) DATA.

15:00 – 15:30 Opanasenko A.N., Shkuratov Yu.G., and Opanasenko N.V. TOPOGRAPHY OF THE APOLLO-17 LANDING SITE FROM CLEMENTINE AND HUBBLE SPACE TELESCOPE DATA.

15:30 – 16:00 Petrov D.V., Shkuratov Yu.G. SCATTERING PROPERTIES OF MODEL COSMIC DUST PARTICLES WITH LAYERED STRUCTURE.

16:00 – 16:15 Coffee break

16:15 – 18:00 POSTERS I, Y.G. Shkuratov and L.V. Moroz – Chairpersons

Alexeev V.A. THE GLOBAL WARMING ON THE EARTH AND THE NORTH ATLANTIC OSCILLATION (NAO).

Alexeev V.A. SOME PECULIARITIES OF THE SURFACE AND TROPOSPHERIC TEMPERATURE TRENDS DERIVED FROM THE RADIOSONDE RECORDS, 1958-2004.

Alexeev V.A. and Ivliev A.I. GLOBAL WARMING AND INCREASE OF THE ATMOSPHERIC CO₂ CONCENTRATION IN THE 20TH CENTURY.

Dulova I.A., Skuratovsky S.I., Bondarenko N.V., and Kornienko Yu.V. RELIEF RECONSTRUCTION WITH THE PHOTOMETRIC METHOD FROM A SINGLE IMAGE: APPLICATION TO MARS.

Grynko Ye., Shkuratov Yu., and Mall U. MODEL REFLECTANCE SPECTRA OF REGOLITH-LIKE SURFACES AT DIFFERENT PHASE ANGLES.

Kaydash V., Mall U., Nathues A., Keller H.U., Vilenius E., and Shkuratov Y. MAPPING THE SPECTRAL PROPERTIES OF LUNAR TERRAINS BY THE SMART-1 NEAR-INFRARED SPECTROMETER SIR: PRELIMINARY RESULTS.

Khavroshkin O. B., Tsyplakov V. V., and Vidmont N. A. NONLINEAR SEISMIC ON IMPACT CRATERING: INFORMATION CONTENT

Ksanfomality L.V. RESOLVED IMAGES OF SURFACE OF THE PLANET MERCURY IN LONGITUDE SECTOR 210° TO 290°W.

Lebedev E.B. EXPERIMENTAL STUDY OF IRON-SULPHIDE AND SILICATE PHASE SEGREGATION IN A CENTRIFUGAL FIELD.

Lavrentjeva Z.A., Lyul A.Yu., and Kolesov G.M. PALLASITES: MINERAL INCLUSION COMPOSITION IN THE OLIVINES – CLUES TO THEIR FORMATION PROCESSES IN ASTEROIDAL PARENT BODIES.

Lyul A.Yu., Lavrentjeva Z.A., and Kolesov G.M. METAL OF TWO TYPES IN THE NORTON COUNTY AND PESYANOE AUBRITES.

Moroz L.V., Maturilli A., Helbert J., Bischoff A., and Jessberger E.K. REFLECTANCE SPECTRA OF MERCURY ANALOGUE MATERIALS BETWEEN 0.5 AND 18 MICRONS AND KIRCHHOFF'S LAW.

Perov N.I. and Medvedev Yu.D. SATELLITE SUBSYSTEMS OF THE GIANT PLANETS AND CENTRAL CONFIGURATIONS.

Petrova E.V., Tishkovets V.P., and Jockers K. OPPOSITION EFFECTS IN REGOLITH SURFACES: INTERACTION OF VARIOUS SCATTERING MECHANISMS.

Pugacheva S.G. THE PHOTOMETRIC RESEARCHS OF THE MERCURY'S SURFACE BY MEANS OF DIGITAL MODELS.

Sinitsin M.P. and Shevchenko V.V. FEATURES OF THE HYDROGEN DISTRIBUTION AROUND LUNAR CRATERS PROCLUS AND KEPLER.

18:00 – 20:30 AMERICAN BUFFET AND SLIDE SESSION

Tuesday October 10

9:30 – 12:45 Session MARS STUDIES, M.B. Wyatt and N.A. Evdokimova – Chairpersons

9:30 – 10:00 Chicarro A.F. MARS EXPRESS – SCIENTIFIC OVERVIEW AND GOALS FOR THE FUTURE

10:00 – 10:30 Wyatt M.B. A COLD AND FROZEN OR WARM AND WET MARS? CONSTRAINTS ON SURFACE COMPOSITIONS FROM TES, THEMIS, OMEGA, AND TERRESTRIAL ANALOG STUDIES.

10:30 – 11:00 Kuzmin R.O. WATER DISTRIBUTION IN THE SURFACE LAYER OF THE MARTIAN PERMAFROST.

11:00 – 11:15 Coffee break

11:15 – 11:45 Kreslavsky M.A. and Head J.W. INNER STRUCTURE OF THE POLAR LAYERED DEPOSITS ON MARS: RELATION TO THE CLIMATE RECORD.

11:45 – 12:15 Levy J.S. and Head J.W. DECONVOLVING CONTROLS ON POLYGONALLY PATTERNED GROUND MORPHOLOGY UNDER MARS-LIKE CONDITIONS: ANTARCTIC DRY VALLEYS AS A TERRESTRIAL ANALOG.

12:15 – 12:45 Head J.W. and Marchant D.R., GULLIES AND SALINE PONDS IN THE COLD HYPER-ARID DESERT OF THE ANTARCTIC DRY VALLEYS: CLUES TO INTERPRETING CLIMATE CONDITIONS ON MARS.

12:45 – 14:00 Lunch break

14:00 – 14:30 Session MARS STUDIES, cont., M.B. Wyatt and N.A. Evdokimova – Chairpersons

14:00 – 14:30 Basilevsky A.T., Neukum G., Werner S.C., Dumke A., Gasselt S., Zuschneid W., and Chapman M. SOURCES OF WATER CARVED MANGALA VALLES, MARS, FROM THE ANALYSIS OF THE HRSC IMAGE H0286.

14:30 – 16:00 Session PLANETARY FORMATION AND EXTRASOLAR PLANETS, S. Franck and M.V. Gerasimov – Chair persons

14:30 – 15:00 Franck S., Bounama C., and von Bloh W. EXTRASOLAR PLANETARY SYSTEMS AND THE PRINCIPLE OF MEDIOCRITY.

15:00 – 15:30 Vityazev A.V., Pechernikova G.V. FORMATION OF CIRCUMSTELLAR PLANETARY SYSTEMS SIMILAR TO SOLAR SYSTEM.

15:30 – 16:00 Gerasimov M.V., Dikov Yu.P., and Yakovlev O.I. ON THE EARLY DIFFERENTIATION OF TERRESTRIAL PLANETS BY IMPACTS DURING THE ACCRETION PERIOD.

16:00 – 16:30 Coffee break

16:30 – 18:00 POSTERS II, G.G. Kochemasov and O.N. Abramenko – Chairpersons

Abramenko O.N., Isaev V.S., and Komarov I.A. CORRELATION OF TYPES OF THE SURFACE ON THE MARS WITH AREAS OF FROST CRACKING PROCESS.

Burba G.A. SNAKE RING STRUCTURE AND ASSOCIATES: DEFINITION, TOPOGRAPHIC DESCRIPTION AND COMPARISON WITH CORONAE ON VENUS.

Burba G.A. TWO CORONA-LIKE GIANT RING STRUCTURES COMPOSE THE AMERICAN ROCKY MOUNTAINS.

Head J.W. and Marchant D.R. NATURE AND EVOLUTION OF LOBATE DEBRIS APRONS AND THEIR RELATIONSHIPS TO LINEATED VALLEY FILL AND GLACIAL SYSTEMS DURING NORTHERN MID-LATITUDE AMAZONIAN GLACIAL EPOCHS ON MARS.

Ivanov M.A., Raitala J., Kostama V.-P., Tormanen T., and Neukum G. MAJOR EPISODES OF GEOLOGIC HISTORY OF THE EASTERN SIDE OF THE HELLAS BASIN, MARS.

Korteniemi J., Ivanov M., Kostama V.-P., and Raitala J. EAST-WEST MORPHOLOGY SURVEY OF HESPERIA PLANUM, MARS: ONGOING WORK REPORT.

Kress A., Head J.W., and Marchant D.R. THE TRANSITION FROM LOBATE DEBRIS APRONS (LDA) TO LINEATED VALLEY FILL (LVF): MAMERS VALLES, NORTHERN ARABIA TERRA-DEUTERONILUS MENSAE REGION ON MARS.

Lahtela H., Korteniemi J., Baratoux D., Vaucher J., Raitala J., and Neukum G. WATER-RELATED MODIFICATION OF A CRATER IN NORTHERN ARABIA TERRA, MARS.

Levine J. and the ARES Science and Engineering Teams, THE AERIAL REGIONAL-SCALE ENVIRONMENTAL SURVEY (ARES): A NEW TOOL FOR THE EXPLORATION OF MARS.

Levy J.S. and Head J.W. LVF/LDA STRATIGRAPHY IN NILOSYRTIS MENSAR, MARS: EVIDENCE FOR MULTI-STAGE GLACIAL ACTIVITY.

Pupysheva N.V., Basilevsky A.T., and Ivanov B.A. LAVA TUBES ON SUMMIT PART OF OLYMPUS MONS VOLCANO, MARS, AND CHANNEL NETWORK AT ITS SOUTH-EAST FOOT: MORPHOLOGY, DEPTHS, WIDTHS, LENGTHS AND COEFFICIENTS OF SINUOSITY.

Ryzhenko B.N., Abdrakhimov A. M., and Basilevsky A. T. DIFFERENTIAL MOBILITY OF URANIUM AND THORIUM IN AQUEOUS SOLUTIONS AS POTENTIAL INDICATOR OF GEOCHEMICAL ENVIRONMENT DURING THE SULFATE AND PHYLLOSILICATE EPOCHS ON MARS.

Kochemasov G.G. THE WAVE PLANETOLOGY ILLUSTRATED – I : DICHOTOMY, SECTORING.

Kochemasov G.G. THE WAVE PLANETOLOGY ILLUSTRATED – II: GRANULATION.

18:00 – 22:00 Foreign guests visit Russian hosts

Wednesday October 11

9:30 - 11:30 Session GEOPHYSICS AND PLANETARY ATMOSPHERES, V.N. Zharkov and L.V. Starukhina - Chairpersons

9:30 – 10:00 Kronrod V.A. and Kuskov O.L. MODELS OF ISOCHEMICAL COMPOSITION OF GALILEAN SATELLITES OF JUPITER.

10:00 – 10:30 Zharkov V.N. and Karamurzov B.S. MODELS, FIGURES, AND GRAVITATIONAL MOMENTS OF JUPITER'S SATELLITES IO AND EUROPA.

10:30 – 11:00 Starukhina L.V. METEORITE SWARM ENCOUNTERS AS A MECHANISM OF MAGNETIC ANOMALIES ON THE LUNAR AND MERCURIAN SURFACES.

11:00 – 11:30 Rodin A.V., Skorov Yu.V., Grieger B., Keller H.U., and Tomasko M. AGGREGATION, CHARGING AND CAPILLARY CONDENSATION ON THOLIN AEROSOLS IN THE TITAN'S TROPOSPHERE.

11:30 – 11:45 Coffee break

11:45 – 13:00 POSTERS III, E.N. Slyuta and T.V. Gudkova – Chairpersons

Aittola M., Ohman T., Hyvarinen M., and Raitala J. POLYGONAL IMPACT CRATERS ON VENUS: PRELIMINARY RESULTS.

Barenbaum A.A. GALAXY COMETS: WHAT DO WE KNOW ABOUT THEM TODAY?

Basilevsky A.T. and Keller H.U. GEOLOGICALLY OLD AND YOUNG FEATURES SEEN ON THE COMET NUCLEI.

Gudkova T.V. and Zharkov V.N. INTERIOR STRUCTURE MODELS AND THEORETICAL FREE OSCILLATIONS SPECTRUM FOR SATURN.

Ivanov M.A. and Head J.W. GEOLOGIC HISTORY OF THE LAVINIA PLANITIA / LADA TERRA REGION, VENUS: RESULTS OF THE MAPPING IN THE V-55, V-61, AND V-56 QUADRANGLES.

Ivanov M.A. and Head J.W. MAPPING IN THE FREDEGEONDE (V-57) QUADRANGLE, VENUS: PRELIMINARY RESULTS.

Ivanov M.A. and Head J.W. MAPPING OF THE V-7 QUADRANGLE: SEQUENCE OF EVENTS DURING FORMATION OF LAKSHMI PLANUM, VENUS.

Kobunov A.S. ON THE PROBLEM OF DEFICIT OF COMETS IN THE SOLAR SYSTEM WITH SMALL ORBITAL PERIODS.

Kostama V.-P. and Raitala J. VENUS – THE PARAMETERS AND INTERPLAY OF VOLCANO-TECTONICS.

Kryuchkov V.P., Raitala J., and Tormanen T. CORONAE AS ELLIPSES OF DEFORMATIONS AND DISTRIBUTION ON THE SURFACE OF VENUS.

Lazarev E.N. and Rodionova J.F. THE HYPSONOMETRIC MAP OF VENUS.

Leikin G.A. and Sanovich A.N. ASTEROIDAL DAMAGE TO THE EARTH: IMPLICATIONS BY ASTEROIDS – RUBBLE PILES.

Perov N.I. and Shilova C.G. ON THE FORECASTING OF EPOCHS OF OCCURRENCES OF UNDISCOVERED HAZARDOUS COMETS.

Slyuta E.N. OBSERVED, ANALYTICAL AND EXPERIMENTAL DATA ON COMETARY NUCLEI STRENGTH PROPERTIES: A REVIEW.

14:00 – 16:30 Session VENUS STUDIES, M.A. Ivanov and N.V. Bondarenko, Chairpersons

14:00 – 14:30 Ivanov M.A. and Head J.W. SEMUNI DORSA, VENUS: A SPECIFIC CLASS OF LOWLAND-HIGHLAND TRANSITION.

14:30 – 15:00 Studd D., Ernst R.E., Samson C., and Desnoyers D.W. MAPPING OF CANALI OF NSOMEKA PLANITIA, VENUS: NEW CRITERION FOR DETERMINING FLOW DIRECTION AND INTERPRETED FLOW HISTORY OF THE CITLALPUL SYSTEM.

15:00 – 15:30 Tormanen T.T., Kostama V.-P., Hyvarinen M., Aittola M., and Raitala J. A NEW SURVEY OF CORONAE AND ARACHNOIDS ON VENUS.

15:30 – 16:00 Bondarenko N.V. and Head J.W. POSSIBLE EVOLUTION PROCESSES OF THE CRATER-ASSOCIATED DARK DIFFUSE FEATURES.

16:00 – 16:30 Lazarev E.N. and Rodionova J.F. AUTOMATIC CREATION OF THE HYPSONOMETRIC MAP OF VENUS.

16:30 Adjourn

PRINT ONLY ABSTRACTS

Bratkov Yu.N. APPLICATIONS OF HOMOLOGICAL ALGEBRA TO GENERAL PLANETOLOGY.

Fassett C.I. and Head J.W. HESPERIAN-AGED VALLEYS ON MARTIAN VOLCANOES: SNOWMELT, DRAINAGE, AND EROSION ON CERAUNIV THOLUS.

Head J.W., THE HYDROLOGICAL CYCLE ON MARS: THE TRANSITION FROM A VERTICALLY INTEGRATED TO A HORIZONTALLY INTEGRATED SYSTEM.

Head J.W., INTERPLANETARY CORRELATION: THEMES IN THE GEOLOGIC HISTORY OF TERRESTRIAL PLANETARY BODIES.

Head J.W. and Kreslavsky M.A. FORMATION OF WEATHERING PITS ON ROCK SURFACES IN THE ANTARCTIC DRY VALLEYS AND ON MARS.

Head J.W. and Wilson L. LATE AMAZONIAN VOLCANIC ERUPTION VENTS IN AN IMPACT CRATER IN THE CERBERUS RUPES REGION, MARS: SMALL SHIELD VOLCANOES, OPEN FISSURE SOURCES AND ASSOCIATED ROOTLESS FLOW CONSTRUCTS.

Morgan G.A. and Head J.W. IMPACT INDUCED HESPERIAN VALLEY NETWORKS AND THEIR IMPLICATIONS FOR THE HESPERION CLIMATIC REGIME.

Ostrach L.R. and Head J.W. AMAZONIAN LOBATE DEBRIS APRONS (LDA) IN THE MID-LATITUDES OF MARS: ASSESSING THE ROLE OF WATER ICE IN THEIR FORMATION AND EVOLUTION.

Patterson G.W. and Head J.W. NON-TRANSFORM STRUCTURAL DISCONTINUITIES ON EUROPA.

Schon S.C. and Head J.W. SUPER-PERMEABILITY ZONES AND THE FORMATION OF OUTFLOW CHANNELS ON MARS.