SCIENTIFIC PROGRAMME

August 12, 2002. Monday

Opening Session: Advances in Astronomical and Physiological Research in the Elbrus Region

14:00 – 15:30

14:00 Words of Welcome

14:20 *V. Tarady, P. Beloshitsky, H. Kurdanov* (*ICAMER*) On the International Cooperation at the High-Altitude Scientific Bases of ICAMER in the Elbrus Region

15:00 *K. Jockers* (*MPAe, Katlenburg-Lindau, Germany*) Six Years of Observing with the Two-Channel Focal Reducer of MPAe at Pik Terskol, Aims and Their Realization

Plenary Session PS-AB

16:00 – 18:00

16:00 *Н. А. Агаджанян* (*Moscow, Russia*)
Н. Н. Сиротинин – основатель отечественной горной физиологии

16:30 *V. N. Ishkov* (*IZMIRAN, Troitsk, Russia*) The Current 23rd Solar Cycle Evolution and Consequences of the Possible Solar Activity Decrease for Environmental Ecology

17:00 *S. Soroko*[1], *M. Lushnov*[1], *E. Golovina*[2] ([1] *I. M. Sechenov Inst. of Evolutionary Physiology and Biochemistry of RAS,* [2] *Russian State Hydrometeorological Univ., St.-Petersburg, Russia*)
Organization of Medical Data Collection and Processing Depending on Long-Term Dynamics of Cosmoheliogeophysical Parameters

Public lecture **18:00**

L. Mueller (*Jena, Germany*) Understanding the Universe

August 13, 2002. Tuesday

Plenary Session PS-1A

14:00 – 15:30

14:00 *J. Krełowski* (*Center for Astronomy, N. Copernicus Univ., Toruń, Poland*)
High Resolution Spectra of Dark Interstellar Clouds: Spectra from Terskol *vs* those from Other Major Observatories

14:25 *М. Аль-Вардат, Ю. Ю. Балега, В. В. Леушин, Ф. А. Мусаев* (*SAO RAS, Russia*)
Синхронные спектральные и спекл-интерферометрические наблюдения кратной системы ADS 11061

14:45 *I. I. Zinchenko* (*IAP, Nizhny Novgorod, Russia*)
Scientific Goals and Prospects of the Ground-Based Submillimeter Astronomy

15:05 *B. Zhilyaev*[1], *Ya. Romanyuk*[1], *O. Svyatogorov*[1], *I. Verlyuk*[1], *V. Tarady*[2], *A. Sergeev*[2], *N. Karpov*[2], *M. Lovkaya*[3] ([1] *MAO NASU,* [2] *ICAMER,* [3] *CrAO*)
Observations of Stellar Image Motions with the Synchronous Network of Telescopes

Workshop A1
Optical Telescopes and Facilities

Convener: V. Leushin

August 13, 2002. Tuesday

Session 1 **9:30 – 11:00**

9:30 *V. Tarady, A. Sergeev, N. Karpov, K. Bogatyryov* (*ICAMER*)
Optical Monitoring of Nearby Space at the ICAMER Observatory on Terskol Peak

9:50 *A. P. Hatzes*[1], *D. E. Mkrtichian*[2] ([1] *Thüringer Landessternwarte Tautenburg, Germany,* [2] *AO ONU)* Big Science with the 2m-class Telescopes in a Global Network

10:10 *O. Andriyenko* (*ICAMER*) Investigation of Seeing Conditions at Terskol Peak

10:25 *V. Konichek, V. Dudinov, A. Zheleznyak, V. Vakulik, I. Sinelnikov* (*IA KhNU*) Adjustment of the AZT-22 Telescope (Maidanak Mountain). Theoretical and Technical Aspects

10:45 *V. Rumyantsev, N. Chernykh* (*CrAO*)
Automatic Telescope for Observation of Near-Earth Asteroids

Session 2 **11:30 – 13:00**

11:30 *B. Zhilyaev* (*MAO NASU*)
Intensity Interferometer Experiment with the Synchronous Network of Telescopes

11:50 *В. Н. Андрук*[1], *Г. З. Бутенко*[2], *Ю. Н. Иващенко*[3] ([1] *MAO NASU,* [2] *ICAMER,* [3] *Андрушевская астрономическая обсерватория Украинской астрономической ассоциации*)
Обработка ПЗС-изображений звездных полей в пакете MIDAS/ROMAFOT

12:05 *Г. З. Бутенко*[1], *В. Н. Андрук*[2], *В. И. Кузнецов*[1], *Л. И. Снежко*[3], *С. Ф. Носов*[2], *В. Г. Парусимов*[2], *Н. Н. Перетятко*[2], *А. В. Сергеев*[1] ([1] *ICAMER,* [2] *MAO NASU,* [3] *SAO RAS*)
Исследование астроклимата 2-м телескопа на пике Терскол

12:20 *О. П. Быков* (*MAO RAS*) Астрометрия с большими телескопами

12:40 *N. Bakhtigaraev*[1], *V. Chazov*[2] ([1] *IA RAS,* [2] *SAI MGU*)
Simulation and Visualization of the Celestial Bodies's Observations by Computer

Poster Session A1: Optical Telescopes and Facilities

A1_P1 *N. Karpov* (*ICAMER*) The Real-Time System for Astronomical Observations on the Telescopes of the Virtual Observatory from ICAMER, SAO, and BNO

A1_P2 *V. Maslov*[1], *V. Godunova*[2], *Ye. Bilevych*[1] ([1] *ISP NASU,* [2] *ICAMER*) New Approaches and Materials for Improving the Technology of Telescope Mirror Manufacturing

A1_P3 *Ya. O. Romanyuk*[1], *O. A. Svyatogorov*[1], *B. E. Zhilyaev*[1], *V. R. Khalack*[1], *A. V. Sergeev*[2] ([1] *MAO NASU,* [2] *ICAMER*) Development and Installation of the System for the Precise Timing and Synchronization of the Synchronous Network of Telescopes

Workshop A2
High-Resolution Spectroscopy

Convener: J. Krełowski

August 14, 2002. Wednesday

9:30 – 11:00

9:30 *N. G. Bochkarev* (*SAI MGU*) Astrophysical Tomography

9:50 *G. A. Galazutdinov*[1], *F. A. Musaev*[1,2], *J. Krełowski*[3], *G. A. H. Walker*[4] ([1] *SAO RAS*, [2] *ICAMER*, [3] *Center for Astronomy, N. Copernicus Univ., Toruń, Poland*, [4] *Univ. of British Columbia, Vancouver, Canada*) Diffuse Interstellar Bands – a Survey with Precise Wavelengths

10:10 *A. Galeev*[1], *I. Bikmaev*[1], *F. Musaev*[2], *G. Galazutdinov*[2] ([1] *DA KSU*, [2] *SAO RAS*) Study of Photometric Solar-Analog Stars from the Spectra Obtained with the 2-m Telescope at the Terskol Observatory

10:30 *J. Kuznetzova*[1,2], *A. Bondar*[2], *A. Vid'machenko*[1], *A. Sergeev*[2] ([1] *MAO NASU*, [2] *ICAMER*) The Spectroscopic Observation Results of Stars with Extrasolar Planets and Extended Objects

Poster Session A2: High-Resolution Spectroscopy

A2_P1 *J. Kuznetzova*[1,2], *A. Bondar*[2] ([1] *MAO NASU*, [2] *ICAMER*) About Possible Emission in the Spectrum of Titan's Atmosphere

Workshop A3
Solar System Bodies

Convener: D. Lupishko

August 15, 2002. Thursday

Session 1 **9:30 – 11:00**

9:30 *L. E. Bykova* (*TSU*) Study of the Orbital Motion of Resonance Near-Earth Asteroids

9:45 *L. E. Bykova*, *V. P. Titarenko* (*TSU*) Some Stabilizing Algorithms of Orbital Parameter Estimation for Solving the Problems of Ephemeris Improvement and Asteroid Identification

10:00 *N. Emel'yanenko* (*SUU*) Models for Low-Velocity Encounters of Comets with Jupiter

10:20 *V. Emel'yanenko* (*SUU*) Dynamics of Trans-Neptunian Objects in High-Eccentricity Orbits

10:40 *S. N. Karpov*, *V. N. Zakidyshev* (*BNO, INR RAS*) Underground Observations of the Moon Shadow

Session 2 **14:00 – 15:30**

14:00 *I. Kulyk*[1], *K. Jockers*[2] ([1] *MAO NASU*, [2] *MPAe, Germany*) Astrometric Observation of the Natural Satellites with the Two-Channel Focal Reducer at Pik Terskol Observatory

14:20 *D. Lupishko*, *A. Ovcharenko* (*IA KhNU*) On the Inversion Effect of Spectral Dependence of Asteroid Polarization

14:45 *V. G. Shevchenko* (*IA KhNU*) Phase Dependences of Asteroid Brightness: Observations and Results

15:05 *A. Vid'machenko*[1], *J. Kuznetzova*[1,2] ([1] *MAO NASU*, [2] *ICAMER*) Nonlinear Optical Effects in Planetary Atmospheres

Poster Session A3: Solar System Bodies

A3_P1 *S. I. Ipatov* (*IAM RAS*) Orbital Evolution of Jupiter-Crossers and Asteroids

A3_P2 *G. T. Kaiser*, *G. S. Romashin*, *E. D. Kuznetsov*, *D. V. Glamazda*, *J. Z. Wiebe*, *V. E. Berland*, *G. P. Khremli* (*AO USU*) Results of the Observations of Geosynchronous Satellites with the SBG Telescope of the Astronomical Observatory of the Ural State University

A3_P3 *E. Kuznetsov*, *D. Glamazda* (*AO USU*) Modelling the Effects of Object Explosion on a Geostationary Orbit

A3_P4 *E. Kuznetsov*, *G. Kaiser* (*AO USU*) Determination of the Second Sectorial Harmonic Parameters of the Geopotential Using Positional Observations of Geosynchronous Satellites

Workshop A4
The Sun

Convener: T. Pinter

August 15, 2002. Thursday

16:00 – 18:00

16:00 *К. А. Бурлов-Васильев, И. Э. Васильева* (*MAO NASU*)
Исследование Солнца на пике Терскол

16:20 *O. Andriyenko* (*ICAMER*)
Current State and Prospects of the Horizontal Solar Telescope ATsU-26 at Terskol Peak

16:40 *S. N. Karpov, V. V. Alekseenko, Z. M. Karpova, N. S. Khaerdinov, V. B. Petkov, V. Ya. Poddubny* (*BNO, INR RAS*) Investigation of the Solar Cosmic High-Energy Rays

17:00 *N. Kondrashova* (*AO KNU*)
Motions of Chromospheric and Photospheric Material in a Solar Flare

17:20 *A. N. Shakhovskaya, V. A. Abramenko, V. I. Abramenko, V. I. Lopukhin* (*CrAO*)
The Use of a Digital Camera Sony DSC-75 for the Observations of Solar Chromosphere in H-alpha Line at the CrAO Coronograph KG-1

17:40 *А. П. Сарычев, Е. М. Рощина* (*SAI MGU*)
Болометрический контраст факелов и вариации солнечной постоянной

Poster Session A4: The Sun

A4_P1 *T. Pinter*[1], *M. Rybansky*[2] ([1] *SCO*, [2] *IA AS, Tatranska Lomnica, Slovak Republic*)
The 530.3 nm Coronal Line Polarization

A4_P2 *I. Vince*[1], *O. Andriyenko*[2], *O. Vince*[1] ([1] *AO, Belgrade, Yugoslavia*, [2] *ICAMER*)
Center to Limb Variation of the MnI 539.5 nm and the MnI 543.2 nm Line Profiles

A4_P3 *N. Vitas*[1], *O. Vince*[1,2], *I. Vince*[2] ([1] *DA*, [2] *AO, Belgrade, Yugoslavia*)
The Influence of Hyperfine Structure on the MnI 543.25 nm Line Profile in Solar Spectrum

Workshop A5
Stars. Stellar Variability

Conveners: A. Cherepaschuk, B. Zhilyaev

August 14, 2002. Wednesday

14:00 – 15:30

14:00 *V. Gopka*[1], *A. Yushchenko*[1,2], *C. Kim*[2], *F. Musaev*[3,4], *G. Galazutdinov*[3,4] ([1] *AO ONU*, [2] *CNU, (South) Korea*, [3] *ICAMER*, [4] *SAO RAS*) A Step to the Solar-Like Stellar Abundance Samples. The Chemical Composition of ζ Cygni

14:20 *B. Zhilyaev*[1], *I. Verlyuk*[1], *Ya. Romanyuk*[1], *O. Svyatogorov*[1], *R. Gershberg*[2], *I. Alekseev*[2], *M. Contadakis*[3], *S. Avgoloupis*[3], *A. Antov*[4], *R. Konstantinova-Antova*[4] ([1] *MAO NASU*, [2] *CrAO*, [3] *Univ. of Thessaloniki, Thessaloniki, Greece*, [4] *IA of Bulgarian AS, Sofia, Bulgaria*)
Fast UBVRI Colorimetry of Stellar Flares on EV Lacertae with the Synchronous Network of Distant Telescopes

14:45 *В. И. Кузнецов*[1], *W. Buscombe*[2], *Г. З. Бутенко*[1], *П. Ф. Лазоренко*[3], *Г. А. Лазоренко*[3] ([1] *ICAMER*, [2] *Northwestern University, Evanston, USA*, [3] *MAO NASU*)
Спектральная классификация слабейших звезд и ее применение для изучения РЗС, ОЗ и Галактики. I. Спектральные классы и светимости звезд РЗС NGC 2244, NGC 2264 и NGC 6913 до 22^m (V)

15:10 *В. В. Леушин* (*SAO RAS*)
Программный комплекс для анализа атмосфер и эволюции двойных звезд

Poster Session A5: Stars. Stellar Variability

A5_P1 *G. Kovalchuk* (*MAO NASU*)
Some Features in the Chemical Composition of the Variable Star V 346 Orionis

A5_P2 *I. Verlyuk, B. Zhilyaev* (*MAO NASU*)
The Cataclysmic Binary KR Auriga in February 2002: Flickering and Oscillations

Workshop A6
New Perspectives for Ground-Based Astronomy

Convener: Ya. Yatskiv

August 13, 2002. Tuesday

16:00 – 18:00

16:00 *A. Galeev, I. Bikmaev* (*DA KSU*) Atmospheric Parameters and Chemical Composition of 50 Stars with Planets Discovered in 1995–2000

16:20 *E. A. Karitskaya* (*IA RAS*) The Optical Doppler Tomography as a Method for the Investigation of the X-Ray Binary Cygni X-1

16:40 *I. Vavilova* (*AO KNU*)
Prospective Tematics of the Future Observational Programs at the Terskol Observatory Proposed by the Astronomical Observatory of the Taras Shevchenko Kyiv National University

17:00 *A. Vid'machenko, V. Krushevskaya* (*MAO NASU*)
Reflectivity Variation of an Extrasolar Giant Planet Orbiting Its Central Star

17:20 *A. Yushchenko*[1,3]*, A. Sergeev*[2]*, C. Kim*[1] ([1] *CNU, (South) Korea,* [2] *ICAMER,* [3] *AO ONU*)
Gravitational Lensing by Globular Clusters. Search for Gravitational Lens Candidates and the Properties of Globular Cluster Systems at the Redshifts $0.03 < Z < 3$

August 14, 2002. Wednesday

11:30 – 13:00

11:30 *V. V. Alekseenko, A. B. Chernyaev, V. B. Petkov, V. Ya. Poddubny, A. V. Radchenkov, A. N. Zaichenko* (*BNO, INR RAS*) A Search for High-Energy Gamma-Ray Bursts

11:45 *Yu. S. Grishkan, V. B. Petkov, E. G. Vertogradova* (*INR RAS*) Time Delay of Gamma-Ray Burst Radiation and the Possibility of Determining the Fate of Cosmological Expansion

12:00 *N. V. Karpov*[1]*, A. V. Sergeev*[1]*, V. K. Tarady*[1]*, S. N. Karpov*[2]*, V. B. Petkov*[2]*, V. Ya. Poddubny*[2]*, I. V. Kulyk*[3]*, K. Jockers*[4] ([1] *ICAMER,* [2] *BNO, INR RAS,* [3] *MAO NASU,* [4] *MPAe, Germany*)
Search for Optical Afterglows of Gamma-Ray Bursts with the 2-m Telescope at the Terskol Peak Observatory

12:15 *O. D. Lalakulich, V. B. Petkov, V. Ya. Poddubny, G. M. Vereshkov* (*BNO, INR RAS*)
Very Short High-Energy Gamma-Ray Bursts and Relativistic Phase Transitions in the Flux of Primordial Black Hole Radiation

12:30 *A. Sergeev*[1]*, T. Sergeeva*[2] ([1] *ICAMER,* [2] *MAO NASU*) The System for Quick Monitoring of Astronomical Plate Archives. Steps toward Cooperation with Modern Astronomical Research

Poster Session A6: New Perspectives for Ground-Based Astronomy

A6_P1 *D. Kirilova* (*IA of Bulgarian AS, Sofia, Bulgaria*)
Baryon Density in the Universe and Alternative Cosmological Nucleosynthesis

A6_P2 *B. Zhilyaev* (*MAO NASU*) Singular Sources of Energy in Stars and Planets

Workshop E1

The Atmosphere: Monitoring and Quantifying. Implications for the Environment and Human Health

Convener: V. Ilyin

August 13, 2002. Tuesday

17:00 – 18:30

17:00 *M. G. Sosonkin*[1], *A. V. Shavrina*[1], *V. A. Dyachuk*[2], *A. A. Veles*[1]
([1] *MAO NASU*, [2] *Inst. for Hydrometeorology, Kiev, Ukraine*)
The Importance of Ozone Concentration Monitoring at High-Altitude Site

17:20 *A. A. Veles*, *A. V. Shavrina*, *M. G. Sosonkin* (*MAO NASU*)
Measurement of Ozone and Greenhouse Gases and Modeling

17:40 *I. Vince*, *A. Kubičela*, *O. Vince* (*AO, Belgrade, Yugoslavia*)
A Method for Measuring the Relative Turbidity of the Earth's Atmosphere

18:00 *I. Terenetskaya* (*IP NASU*) "D-dosimeter": New Multifunctional UVB Sensor of the Vitamin D Synthetic Capacity of Sunlight

18:20 *В. Н. Ващенко*[1], *А. І. Лоза*[2], *Ж. І. Патлашенко*[1], *О. Є. Черниш*[3] ([1] *KNU*, [2] *Український Антарктичний центр*, [3] *Центр аерокосмічних досліджень НАНУ, Київ, Україна*)
Метрологічний комплекс для градуювання бортових ультрафіолетових спектрометрів-озонометрів

Poster Session E1: The Atmosphere: Monitoring and Quantifying. Implications for the Environment and Human Health

E1_P1 *M. Lorenc* (*SCO, Slovak Republic*) Stratwarm and Solar Activity

E1_P2 *І. О. Дичко*[1], *В. Б. Бакушевич*[2] ([1] *Полтавський військовий інститут зв'язку*, [2] *Полтавська гравіметрична обсерваторія НАНУ, Україна*)
Про можливий вплив комет на погодні і кліматичні умови на Землі

Workshop E2

Space Debris

Convener: L. Rykhlova

August 15, 2002. Thursday

11:30 – 13:00

11:30 *A. Bagrov*, *G. Bolgova* (*IA RAS*)
A Program of the Near-Earth Natural Debris Reproduction Process Investigations

12:00 *A. V. Bagrov*[1], *E. S. Bakanas*[1], *S. I. Barabanov*[1], *G. T. Bolgova*[1], *A. M. Mikisha*[1], *L. V. Rykhlova*[1], *V. K. Tarady*[2], *A. V. Sergeev*[2] ([1] *IA RAS*, [2] *ICAMER*) Investigation of the Migration of Small Solar System Bodies and Development of the Technique for the Detection of Potentially Hazardous Objects and Space Debris Fragments

12:30 *В. Ф. Герастовский*, *М. И. Макаров*, *Ю. Ю. Махненко* (*НИИ Космических систем, г. Юбилейный Моск. обл., Россия*) Основные результаты привлечения обсерватории МЦ АМЭИ в интересах контроля выведения РБ и полета КА в период 1998–2001 гг.

Poster Session E2: Space Debris

E2_P1 *P. Zakharova*, *E. Kuznetsov* (*AO USU*) Preliminary Catalogue of Space Debris on Geostationary Orbit from TV-Observations Made at the Kourovka Astronomical Observatory in 1999–2002

E2_P2 *О. П. Быков* (*MAO RAS*) Проблемы оперативного контроля космического пространства оптическими средствами наблюдений