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BULGARIAN ACADEMY OF SCIENCES  
SPACE RESEARCH INSTITUTE  
BULGARIAN ASTRONAUTICAL FEDERATION

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**SECOND SCIENTIFIC CONFERENCE  
WITH INTERNATIONAL PARTICIPATION**

**SPACE  
ECOLOGY  
NANOTECHNOLOGY  
SAFETY**

**SENS '2006**

**PROGRAMME**

14 – 16 June 2006  
Creative House of the Bulgarian Academy of Sciences  
Varna, *Journalist Station*

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**14.06.2006 (Wednesday)**

**Registration 10:00 – 20:00**

**Hall 1**

**16:30 Opening Ceremony**

Welcome Address

Greeting Words

Plenary Session

***Petar Getsov** –SRI-BAS 25 Years after the BULGARIA-1300 PROJECT*

Greeting Concert

Opening of the Artistic Exhibition of Sen. Res. Dr. Petar Stoyanov

**20:00 Welcome Party**

## **Session 1**

### **Space Physics and Astrophysics**

**15.06.2005 (Thursday)**

**Hall 3**

**Morning session**

**Chairman: Sen. Res. Stefan Chapkunov**

**Secretary: Res. Fell. Maria Dimitrova**

**9:00** ***Georgi Paraskov, Gerhard Wurm, Oliver Krauss** – Institute of Planetology, Muenster, Germany*  
Eolian Erosion of Dusty Bodies in Protoplanetary Disks

**9:15** ***Nikolai S. Erokhin, Nikolai N. Erokhin** – Space Research Institute-RAS*  
***Vladimir Damgov** – SRI-BAS*  
The parametric instability of oscillator in the case of complex modulation. The exact solution model

**9:30** ***Alexander Mishev, Yordan Stamenov, Hristo Angelov** – INRNE-BAS*  
Capacity of cosmic ray environment connection studies at BEO Moussala

**9:45** ***Kostadin Sheiretsky, Vladimir Damgov, Plamen Trenchev** – SRI-BAS*  
Взаимовръзка между постъпателното и въртеливото движение в централното гравитационно поле при движение на спътник по кръгова орбита

- 10:00** *Nikolay Isaev, Valeri Sorokin, Olga Serebryakova, Alexey Yaschenko, Elena Trushkina* – IZMIRAN, Russia  
*Georgi Stanev* – SRI-BAS  
 Electric field enhancement and disturbances of plasma density in the ionosphere above the zones of preparation and development of typhoons
- 10:15** *Nikolai Bankov, Stefan Chapkunov, Liudmila Todorieva* – SRI-BAS  
*Mihail Kaschiev* – Institute of Mathematics-BAS  
 Data Base "B-1300" – Problems and Solutions  
 База данни "Б-1300" – проблеми и решения
- 10:30 – 10:45** **Coffee break**
- 10:45** *Stefan Chapkunov, Nikolai Bankov, Georgi Galev* – SRI-BAS  
*Georgi Karamishev* – Geophysical Institute – BAS  
 Satellite Potential and Its Link to Photocurrent – Experiment "Bulgaria 1300"
- 11:00** *Stiliyan Stoyanov* – SRI-BAS  
*Angel Manev, Kunyo Palazov, Stefan Spasov* – STIL-BAS, Stara Zagora  
 Апаратура за изследване на яркостта на денонощното небе  
 Equipment for research of the brightness of the diurnal sky
- 11:15** *Zdravko Andonov* – SRI-BAS  
 Интелектуални космически предизвикателства и решение на последната теорема на Ферма (FLT)  
 Intellectual Cosmos Challenges and Fermat's Last Theorem (FLT) Solution
- 11:30** *Milen Zamfirov, Petar Getsov* – SRI-BAS  
 Приносът на проф. Рашко Зайков за развитието на теоретичната физика в България

### **Poster Session:**

- 1-1** *Maria Dimitrova* – SRI-BAS  
 Planet formation - problems and future
- 1-2** *Maria Dimitrova* – SRI-BAS  
 Planet formation in binary systems
- 1-3** *Marusja Buchvarova* – SRI-BAS  
 Galactic and Low-Energy Anomalous Cosmic Rays Transport in the Heliosphere
- 1-4** *Daniela Boneva* – SRI-BAS  
 An appraisal of using some able observational methods for studying binary star systems with accretion disc
- 1-5** *Plamen Trenchev, Vladimir Damgov, Kostadin Sheiretsky* – SRI-BAS  
 Solar system dynamics as a system of coupled oscillators
- 1-6** *Nikolai Bankov, Stefan Chapkunov* – SRI-BAS  
 Unusual V-A characteristics obtained by ion trap on board of "IKB-1300"
- 1-7** *Dejan Gotchev* – SRI-BAS  
 Отвъд конфликта "Теория-наблюдение"

## Session 2

### Aerospace Equipment and Technologies

16.06.2005 (Friday)

Hall 3

Morning session

Chairman: Prof. Petar Getsov

Secretary: Res. Fell. Zoya Hubenova

9:00 **G. Gakh, Nikolai Erokhin** – SRI- RAS

The electromagnetic wave interaction with chiral inhomogeneous plasma

9:15 **Rustam Rustamov** – Caspian Business Centre, Baku, Azerbaijan

Regional centres for Space science and Technology education affiliated with the United nations

9:30 **Jordanka Semkova, Greta Todorova, Rositza Koleva, Nikolay Kanchev** – STIL-BAS,

**Vladimir Petrov, Vyachaslav Shurhakov** – IMBP-RAS, Russia

Status and calibration results of Liulin-5 charged particle telescope designed for radiation measurements in a human phantom onboard the ISS

9:45 **Stilian Lukov** – STIL-BAS

Антенни и антенни решетки с фракталоподобна структура – характерни особености и възможни приложения

10:00 **Ani Boneva, Dichko Bachvarov, Roman Zachariev, Romyana Krasteva, Rumens Nedkov, Veselin Georchev** – CLMI-BAS

Satellite control module

10:15 – 10:45 **Coffee break**

10:45 **Stilian Stoyanov** – SRI-BAS

Calibration of spectrophotometer, having the characteristics of a monochromator

11:00 **Pavlin Gramatkov, Rumens Shkevov** – SRI-BAS

Space instruments full electromagnetic interference investigation affected by the microprocessor's interfaces

11:15 **Plamen Petrov, Tsvetan Stoyanov, Ekaterina Yordanova-Dukova** – TU Sofia, **Boytcho Boytchev** – SRI-BAS

Unmanned air vehicle control task hierarchy

11:30 **Radostin Kasarov**

Приложение на дифракционния ултразвуков метод при стоманени елементи и конструкции от летателни апарати с дебелина до 12 mm

**Poster Session:**

**2-1** *Wiliam Popov, Petar Getsov, Antonio Andonov, Zoya Hubenova, Ivan Dimitrov, Milen Zamfirov, Konstantin Metodiev, Palmira Panova – SRI-BAS*

Ментални модели и информационен, знаниен и смислов processing на човека като управляваща система в условията на микрогравитация  
Man as a Control System in Microgravitation Circumstances – Mental Models and Information, Knowledge and Meaning Processing

**2-2** *Palmira Panova – SRI-BAS*

Полетни условия за самолетната гравиметрия  
Flight Conditions for Airborne Gravimetry

## Session 3

### Remote Sensing and Geoinformation Systems

16.06.2005 (Friday)

Hall 1

Morning session

Chairman: Prof. Hernani Spiridonov

Secretary: Res. Fell. Alexander Gikov

9:00 **Hernani Spiridonov** – SRI-BAS

**Vladimir Makarov** – Institute of Environmental Geosciences-RAS

Геодинамика на България

Geodynamics of Bulgaria

9:15 **Angel Manev, Kunyo Palazov, Boyan Benev** – STIL-BAS

Космически аспекти на температурните аномалии на повърхността на Черно море

9:30 **Denitsa Borisova, Hristo Nikolov, Miroslav Danov, Rumiana Kancheva** – STIL-BAS

Определяне на съдържанието на желязо в минни райони по дистанционни данни

Assessment of iron content in mining-impacted areas by remotely sensed data

9:45 **Rumiana Kancheva, Denitsa Borisova** – STIL-BAS

Съответствие на резултатите при определяне на растителни биопараметри чрез използване на спектрални и биофизични регресионни модели

Outputs correspondence between spectral and biophysical regression models for vegetation bioparameters retrieval

10:00 **Hristo Nikolov** – STIL-BAS

**Nina Jeliaskova** – IPP-BAS

Multispectral data classification by non-linear methods

10:15 **Georgi Ignatov, Hristo Nikolov, Doyno Petkov, George Georgiev** – STIL-BAS

Morphological and Object-Oriented Methods in Classification of Multispectral Data

10:30 – 10:45 **Coffee break**

10:45 **Alexander Gikov, Kalin Stefanov** – SRI-BAS

Използване на аероснимки за картографиране на ландшафтите в планински територии

Using Aerial Photo Images for Landscape Mapping in Mountainous Areas

- 11:00** *Eugenia Roumenina, Roumen Nedkov, Vanya Naydenova – SRI-BAS*  
**Georgi Kanev – St. Kliment Ohridski University of Sofia**  
 Spatial Model of the Man-Induced Transformation on the Land of the Town of Novi Iskar
- 11:15** *Albena Pavlova – SRI-BAS*  
 Вероятностно-статистически подход за определяне възникването на пожари и разпространението им на базата на съвременни спътникови данни  
 Probability-Statistical Approach for Definition of Fire Occurrence and Its Influence Based on Contemporary Satellite Data
- 11:30** *Stanislav Stoykov, Kalin Rouskov, Kamen Popov, Janko Gergikov – University of Mining and Geology*  
 Photogeological interpretation in satellite images
- 11:45** *Rumyana Vatzeva – Geographical Institute-BAS*  
**Anton Stoimenov, Nevena Borisova – SRI-BAS**  
 Assessment of the Land cover changes in the Plovdiv region in 1990 - 2000 by application of the Corine Land cover data
- 12:00** *Zdravko Andonov – SRI-BAS*  
 Thinking Experiments in Remote Sensing of Earth and Space
- 12:15** *Zlatka Pironkova – SRI-BAS*  
**Hristo Stanchev – Institute of Oceanology-BAS**  
 Приложение на EOS MODIS Level 2 продукти за изследване на повърхностните температури в Черно море  
 Application of EOS MODIS Level 2 Products to Study SST in the Black Sea

### **Poster Session:**

- 3-1** *Kalinka Bakalova – STIL-BAS,*  
**Dimitar Bakalov – INRNE-BAS**  
 Remote sensing of earth objects from terrestrial photo imagery
- 3-2** *Kunyu Palazov, Angel Manev, Alexander Bochev – STIL-BAS,*  
**Zhivko Zhekov, Garo Mardirossian – SRI-BAS**  
**Alexander Kuzmin, Victoria Prohorenko, Natan Esmont – SRI-RAS, Russia**  
**K. Chikov, A. Sandoukov – Institute of Precise Mechanics and Optics, St.Peterburg, Russia**  
 Исследования в зоне аврорального овала и результаты полученные спектрометром UFIPS - проект Интербол
- 3-3** *George Jeleв – SRI-BAS*  
 Структура на ГИС-проект за геоморфоложко изследване на вулканогенни структури в Източни Родопи  
 Structure of GIS-project for geomorphological Study of Volcanogenic Structures in the Eastern Rhodopes



## Session 4

### Ecology and Risk Management

15.06.2005 (Thursday)

Hall 1

Morning session

Chairman: Prof. Garo Mardirossian

Secretary: Dipl. Eng. Margarita Cherveniyashka

**9:00** *Nikolay Erokhin, I. Starikovich, N. Zolnikova – SRI-RAS, Moscow*  
*Vladimir Damgov – SRI-BAS*

Простая нелинейная модель жизненного цикла тайфуна  
On the simple nonlinear model of a typhoon life cycle

**9:15** *Rustam Rustamov, Faik Rzayev, Elman Aleskerov – Caspian Business Centre, Baku, Azerbaijan*

Space Technology Application to Strengthen Disaster Preparedness in Effective Early Warning

**9:30** *Petar Getsov*

Концепция за Национална система за мониторинг  
Conception for National Monitoring System

**9:45** *Dimitar Dimitrov, Ivan Georgiev – Central Laboratory of Geodesy-BAS*

*Thierry Camelbeeck – Royal Observatory of Belgium*

*Jean-Claud Ruegg – Institute du Globe de Paris*

*Emil Botev – Geophysical Institute-BAS*

Surface seismic deformations in the Plovdiv region (Bulgaria) by Space Geodesy and Seismology data

**10:00** *Strashimir Mavrodiev – INRNE-BAS,*

*Emil Botev – Geophysical Institute-BAS,*

*Lazo Pekevski – Seismological Observatory, Skopje*

On the prediction of earthquakes based on some geomagnetic observations in Sofia - Skopje region

**10:15** *Boyko Ranguelov – Geophysical Institute-BAS*

Seismic risk mapping – state of the art in the PECO countries (Part 1 and 2)

**10:30 – 10:45** **Coffee break**

**10:45** *Boycho Boytchev – SRI-BAS*

*Petko Nenovski, Sonia Dimitrova, Konstantina Donkova, Vladimir Boytchev*

*Geophysical Institute-BAS*

*Edelvays Spassov – Australia*

Сеизмичност и измервания за търсене на електромагнитни предвестници в Кресненската земетръсна зона

- 11:00** *Orlin Dimitrov, Ivan Genov – Institute of Oceanology-BAS, Varna*  
Неотектонски изследвания в Долнокамчийското понижение и югоизточната част на Мизийската плоча
- 11:15** *Tzanko Tzankov, Krassimir Stoyanov – Neofit Rilski University, Blagoevgrad*  
*Yulia Kroumova – Geographical Institute-BAS*  
Морфоструктурни особености на Плана планина
- 11:30** *Georgi Kanev – St. Kliment Ohridski University of Sofia*  
*Vanya Naydenova, Roumen Nedkov, Eugenia Roumenina – SRI-BAS*  
Modern natural and anthropogenic changes of the pyramids of Kutina
- 11:45** *Milcho Patechkov – Ministry of Defence,*  
*Tsvetan Popov – Ministry of Health, NMCC*  
Прилагане на компютърни модели при извършване на оценка на риска в предприятията от химическата промишленост  
Implementation of computer modeling software in risk assessment of enterprises in Chemical industry
- 12:00** *Mladen Mladenov, Tsvetan Popov – Ministry of Health, NMCC*  
Use of geographic information systems for the purposes of emergency planning  
Използване на ГИС за целите на аварийното планиране
- 12:15** *Hristo Slabakov, Atanas Palazov, Nicolai Valchev – Institute of Oceanology-BAS*  
The Arena Project contribution for the Black Sea environmental security
- 12:30** *Atanas Palazov, Hristo Stanchev – Institute of Oceanology-BAS*  
Human Population Pressure, Natural and Ecological Hazards along the Bulgarian Black Sea Coast
- 12:45** *Hristo Slabakov, Atanas Palazov, Nicolai Valchev – Institute of Oceanology-BAS*  
A new programme supporting operational oceanographic services in the Black Sea region

## Hall 1

### Afternoon session

- 16:00** *Pavlina Simeonova, Vasil Lovchinov, Vasil Simeonov*  
Environmetrics in risk assessment
- 16:15** *Vasil Simeonov, Stefan Tsakovski, Pavlina Simeonova*  
Air quality assessment of multivariate statistics
- 16:30** *Vladimir Tomov – Angel Kanchev University of Ruse*  
Оценка на риска от замърсявания на речна вода с клинична кръв  
Differential and Integral Risk of Emergency Emissions in Chemical Production
- 16:45** *Vladimir Tomov – Angel Kanchev University of Ruse*  
Диференциален и интегрален риск на аварийните емисии в химическото производство.
- 17:00** *Dimitar Parlichev – Institute of Oceanology-BAS, Varna*  
Инженерно-биологичен метод за брего-еко-цунамизащита

**17:15 Ivan Hristov – SRI-BAS**  
Слънце и Земя, Природа и Човек

**17:30 Vassil Miroslavov**  
Радиоекология  
Radioecology

**Poster Session:**

- 4-1 Silvia Koceva, Atanas Bliznakov – New Bulgarian University**  
Визуалният архив от туристически пътувания в съхранена природна среда като критерий за екологична култура
- 4-2 Ralitsa Berberova – New Bulgarian University**  
Отражение на природните екологични катастрофи върху туризма по примера на цунами в Индонезия от месец декември 2004 г.
- 4-3 Georgi Markov, Ivanka Atanasova, Ivailo Raikov. – Institute of Zoology-BAS**  
Bioindicator epigenetic characteristic of the zoomonitor wood mouse (*Apodemus sylvaticus*) for environmental contaminants in agroecosystems
- 4-4 Georgi Markov, Milena Gospodinova – Institute of Zoology-BAS**  
Остатъчни количества тежки метали в червената лисица (*vulpes vulpes*), обитаваща агрорегион  
Heavy metals contaminants of Red fox (*Vulpes vulpes*) inhabiting the agroregion
- 4-5 Radi Radichev, Stephan Dimovski – University of Mining and Geology**  
Контролиране на риска при отпадъкохранилищата чрез прилагане на геофизични електрични методи
- 4-6 Bogdana Mendeva, Dimitar Krastev, Boyan Petkov – STIL-BAS**  
**Tsvetana Gogosheva – Institute of Astronomy-BAS**  
Атмосферният озон над България от наземни и спътникови измервания
- 4-7 Antoanetta Frantzova, Garo Mardirossian – SRI-BAS**  
**Boyko Rangelov – Geophysical Institute-BAS**  
Classification and Analysis of the Remote Sensing Technologies about Natural Hazard and Risk Management
- 4-8 Stoyan Stoyanov, Ceco Dushkin – St. Kliment Ohridski University of Sofia**  
Photocatalytic layers for safety space and ecology systems and management of their quality manufacturing
- 4-9 Stoyan Velkoski – Research Center "Soncev zrak", Macedonia**  
Discovering and working on the harmfulness cosmic knots on the new discovered S-net
- 4-10 Stoyan Velkoski – Research Center "Soncev zrak", Macedonia**  
Protection of Macedonian structural heritage with combined geobiological, hydrogeological and ecological methods
- 4-11 Deyan Gotchev – SRI-BAS**  
Атрактор ли са еволюционните разриви на Земята?

## Session 5

### Space Material Science and Nanotechnology

15.06.2005 (Thursday)

Hall 2

Afternoon session

Chairman: Prof. Stavri Stavrev

Secretary: Res. Fell. Zdravka Karaguizova

- 16:00** *Rustem Bagramov, Vladimir Blank, Vetcheslav Prokhorov, Genady Pivovarov* Technological Institute for Superhard and Novel Carbon Materials, Russia  
Fe+C<sub>60</sub> Nanostructured material with advanced mechanical properties
- 16:15** *Lyudmila Mikhailovskaya, Nikolai Erokhin* – Space Research Institute-RAS, *Vladimir Damgov* – SRI -BAS  
Безотражательное распространение электромагнитных волн в неоднородных диэлектрических слоях  
Nonreflection Propagation of electromagnetic waves in inhomogeneous dielectric layers
- 16:30** *Zhivko Genchev* – Institute of Electronics-BAS  
Physics of light-induced forces: classical effects versus interactions due to fluctuating electromagnetic field
- 16:45** *Stavri Stavrev, Zdravka Karagyozova, Yulian Karadjov, Dimitar Mitev, Lyudmil Markov, Anna Petrova* – SRI-BAS  
Изследване на FMP на МКМ уякчени с модифицирани UDDP  
An Investigation on the Physico-Mechanical Parameters of Metal Composite Materials Strengthened with Modified UDDP
- 17:00** *Yulian Karadjov, Zdravka Karagyozova, Stavri Stavrev* – SRI-BAS  
Върху един метод за отлагане на катализатор от UDDP на нафтионови мембрани от горивни елементи  
A Method for the Deposition of Catalyzer/UDDP on Naphion Membranes for Fuel Cells
- 17:15** *Veselina Mavrodinova, Margarita Popova, Momchil Dimitrov, Christo Minchev* – Institute of Organic Chemistry-BAS  
*Dimitar Mitev, Stavri Stavrev* – SRI-BAS  
Получаване и характеризиране на Ni-нанесени нанодисперсни диамантени катализатори  
Preparation and Characterization of Ni-supported Nanodispersed Diamond Catalysts

- 17:30** **Valentin Gospodinov** – SRI-BAS  
Уравнение на състоянието на смеси. Обратна ударна адиабата  
Hugoniot equation of state for powder mixtures. Inverse shock Hugoniot
- 17:45** **Yulika Simeonova, Medi Astrukova, Tinka Grozdanova, Lyudmila Dinkova** – SRI-BAS  
Тенденции в развитието на самосмазващите се композитни антифрикционни материали  
Tendencies in the Development of Self-Lubricating Composites Antifrictional Materials
- 18:00** **Anatolii Kostornov, Olga Fushchich, Tatyana Chevichelova, Alexey Kostenko** – Institute of Problems of Material Science-NAS, Ukraine, **Yulika Simeonova** – SRI-BAS  
Високофункционални самосмазващи се композитни антифрикционни материали
- 18:15** **Dimitar Mitev, Stavri Stavrev, Yulian Karadjov** – SRI-BAS  
Изследване върху комбинирани огнево-бихроматен метод за рафиниране на детонационно синтезирани диамантени шихти  
Research on a Combined Burning-Dichromate Methods for Purification of Shock Synthesized Diamond Containing Primary Mixtures
- 18:30** **Nikola Stoichev, Svetlana Yaneva, Petar Kovachev** – Acad. A. Balevski Institute of Metal Science-BAS  
**Stavri Stavrev** – SRI-BAS  
Алуминиеви сплави с композиционна структура за приложение при повишени работни температури  
Aluminium Composite for Application at Elevated Temperature

### **Poster Session:**

- 5-1** **Gülsü Gökağaç, Fatih Şen** – Middle East Technical University, Department of Chemistry, Turkey  
Preparation and characterization of carbon supported and surfactant stabilized
- 5-2** **Rayna Dimitrova, Maya Spassova, Christo Minchev** – Institute of Organic Chemistry-BAS  
**Stavri Stavrev, Dimitar Mitev** – SRI-BAS  
Специфика на нанодиамантена повърхност в зависимост от методите на пречистване  
Surface peculiarities of detonation diamonds in dependence of the purification methods

## Session 6

### Electronic and Computer Engineering

15.06.2005 (Thursday)

Hall 2

Morning session

Chairman: Prof. Filip Filipov

Secretary: Res. Fell. Lubomira Kraleva

- 9:00** *Rosen Bogdanov, Borislav Bedzhev – V. Levski National Military University*  
Алгоритъм за обработка на сигнали от радар със синтетична апертура чрез  
числовото преобразуване на Мерсен  
An Algorithm for Synthetic Aperture Radar Signal Processing via Mersenne Number  
Transform
- 9:15** *Violeta Bozhikova, Mariyana Stoeva – TU, Varna*  
Алгоритми за клъстеризация и софтуерни технологии  
Clusterization algorithms and software technologies
- 9:30** *Adriana Borodzhieva – Angel Kunchev University of Rousse*  
Генериране на ключ с използване на линеен преместващ регистър с обратна  
връзка в синхронни и самосинхронизиращи се криptosистеми с поточно  
шифриране  
Key Generation Using Linear Feedback Shift Registers in Synchronous and Self-  
Synchronizing Cryptosystems with Stream Encoding
- 9:45** *Adriana Borodzhieva – Angel Kunchev University of Rousse*  
Анализ на четириразряден линеен преместващ регистър с обратна връзка,  
използван като генератор на ключ в криptosистеми с поточно шифриране  
Analysis of a 4-bit Linear Feedback Shift Register Used as a Key Generator in  
Cryptosystems with Stream Encoding
- 10:00** *Adriana Borodzhieva – Angel Kunchev University of Rousse*  
Описание и приложение на стандартизирания алгоритъм за шифриране на  
данни (DES)  
Description and Application of Data Encryption Standard (DES)
- 10:15** *Alexandar Milev, Borislav Bedzhev – Bishop Konstantin Preslavski University of  
Shoumen*  
Автоматизирана система за създаване на оптични ортогонални кодове
- 10:30** *Rosen Bogdanov, Borislav Bedzhev, Alexandar Milev – Bishop Konstantin  
Preslavski University of Shoumen*  
Алгоритъм за обработка на сигналите в радар със синтезирана апертура,  
използващ числово преобразуване на мерсена
- 10:45 – 11:00**     **Coffee break**

- 11:00** **Yordan Sivkov, Ancho Draganov, Chavdar Aleksandrov** – *N. Vaptsarov Higher Military Navy School*  
Невронни мрежи в разпознаването. Признаково пространство и структура  
Neuron Networks in Recognition. Symptom Space and Structure
- 11:15** **Nicolay Petrov, Simeon Mravchev, Dimitar Ginev, Tasho Georgiev**  
Структурни модели и топологическо проектиране на бързи невронни мрежи
- 11:30** **Lubomir Vuchkov** – *Institute for Electrochemistry and Energy Systems, BAS*  
On a Possibility for Communication and Computing Devices EMI Shielding  
Върху една възможност за EMI екраниране на комуникационни и компютърни устройства
- 11:45** **Teodora Petrova, Mihail Zhelyazov** – *Angel Kunchev University of Rousse*  
Вариант на доплеровски откривател за близко разстояние с повишена чувствителност  
Close-Distance High-Sensitivity Doppler Detector Version
- 12:00** **Petko Zhelyazov, Mihail Zhelyazov** – *Angel Kunchev University of Rousse*  
Една възможност за контролиране параметрите на свързочен канал при предаване на информация  
One Possibility to Control the Parameters of a Communication Channel During Information Transfer
- 12:15** **Mihail Zhelyazov, Teodora Petrova** – *Angel Kunchev University of Rousse*  
Методика за оценка защитеността на елементите от системата за връзка със специално предназначение от взаимни смущения  
Methods to Assess the Protection of Specific Dedication Communication System Elements from Mutual Disturbances
- 12:30** **Elmira Bachvarova** – *CLM, BAS*  
Архитектура на безжична M2M система за сбор на данни и контрол  
Wireless M2M System Architecture for Data Acquisition and Control
- 12:45** **Radoslav Kardjhiiev, Kremen Hristov** – *ICON Ltd., Shoumen*  
Криптографията: роля, пазар и инфраструктура  
Cryptography: Roles, Market and Infrastructure
- 13:00** **Velin Kralev** – *South-West University, Blagoevgrad*  
A Model for Management of Multiple Communication Channels in Signal Protective Systems
- 13:15** **Aneliya Karagyozyan** – *V. Levski National Military University*  
Използване на компютри в езиковото обучение  
Computers in Language Learning

### **Poster Session:**

- 6-1** **Atanas Georgiev** – *Geophysical Institute, BAS*  
**Garo Mardirossian** – *SRI-BAS*

Транслиране на сеизмологична информация с използване на мрежата за мобилна телефония – GSM  
Translation of Seismologic Information Using the Mobile Telephone Network – GSM

- 6-2** ***Teodor Iliev, Bozhidar Stefanov*** – *Angel Kunchev University of Rousse*  
Симулационен анализ на конволюционен декодиращ алгоритъм на Витерби  
Simulation Analysis of the Viterbi Convolutional Decoding Algorithm
- 6-3** ***Teodor Iliev, Bozhidar Stefanov*** – *Angel Kunchev University of Rousse*  
Моделиране на канали със затихване и оценка на корелационните и спектрални свойства на процесите, които протичат в тях  
Fading Channels Modeling and Estimation of the Correlation and Spectral Properties of the Processes in the Channels
- 6-4** ***Plamen Manoilov*** – *Angel Kunchev University of Rousse*  
Анализ на методи за филтриране на белия шум в електроенцефалограми  
Analysis of White Noise Filtration Methods in Encephalograms
- 6-5** ***Vladimir Mateev*** – *Angel Kunchev University of Rousse*  
Мрежово средство за обучение, използващо комбинационни схеми с множество изходи  
Multiple-Output Combinational Schemes Design Web-Based Tutoring Tool
- 6-6** ***Georgi Kirov*** – *Institute of Control and System Research, BAS*  
Simulation Investigation of the Ethernet Network Performance



## Session 7

### Space Biology and Medicine

15.06.2005 (Thursday)

Hall 3

Afternoon session

Chairman: Sen. Res. Tania Ivanova

Secretary: Res. Fell. Lubomira Krалеva

- 16:00** *Tania Ivanova, Iliana Ilieva, Plamen Kostov, Svetlana Sapunova – SRI-BAS, Snejana Doncheva, Romyana Dikova – Institute of Plant Physiology-BAS*  
Experiment investigating the influence of oxygen deficiency on plants grown in microgravity
- 16:15** *Georgi Simeonov, Slavtcho Slavtchev – Institute of Mechanics-BAS*  
*Tania Ivanova – SRI-BAS*  
*Snejana Doncheva – Institute of Plant Physiology-BAS*  
*Marcel Hannenberg – Université Libre de Bruxelles, Bruxelles, Belgium*  
Model of water and nutrients supply to plants in a space greenhouse
- 16:30** *Tania Ivanova – SRI-BAS*  
*Vladimir Sychev – IMBP-Russia*  
Project “Greenhouse-Mars” – plant growth study with different spectra LED’s light units
- 16:45** *Irina Stoilova – STIL-BAS*  
Сърдечна дейност и сън в космически условия  
Heart rate variability and sleep during space flight
- 17:00** *Stoyan Tanev, Plamen Trendafilov, Petar Genov – SRI-BAS*  
Относно комплексния спектрален анализ на вариабилността на сърдечния ритъм  
About complex spectral analysis of the heart rate variability
- 17:15** *Iliа Peev – High marine military school-Varna*  
Основни особености на дейността на човека в космически условия и някои актуални проблеми на космическата психология  
Basic peculiarities in the human activities in space environment and some topical problems of the space psychology
- 17:30** *Mariana Stoeva, Violeta Bojkova – Technical University-Varna*  
Подход за биометричен достъп до медицински бази данни от изображения  
Approach for biometric access to medical image data base

## Session 8

### Warfare and Space

16.06.2005 (Friday)

Hall 2

Morning session

Chairman: Sen. Res. Zhivko Zhekov

Secretary: Palmira Panova

- 9:00** *Ivan Popov, Georgi Popov – Rakovski Defence and Staff College, Defence Advanced Research Institute*  
New systems for aerosol camouflage of armoured vehicles
- 9:15** *Ivan Popov, Georgi Popov – Rakovski Defence and Staff College, Defence Advanced Research Institute*  
New devices for protection and consequence management in case of terrorist acts involving toxic chemical substances
- 9:30** *Pavlin Kozarski, Nikolai Hristov – Rakovski Defence and Staff College, Defence Advanced Research Institute*  
Modernization of wheeled armoured fighting vehicles for improvement of technical, tactical and ecological indexes
- 9:45** *Pavlin Kozarski, Nikolai Hristov – Rakovski Defence and Staff College, Defence Advanced Research Institute (DARI)*  
Some problems encountered with the accelerated tests of wheeled armoured vehicles
- 10:00** *Hristo Hristov, Svetozar Botev – Rakovski Defence and Staff College, Defence Advanced Research Institute (DARI)*  
Study of non-gradient formation of cumulative jet by charge with conical liner
- 10:15** *Filip Filipov – SRI-BAS*  
Определяне на времето при самонасочване  
Time Fixing in Guidance System
- 10:30 – 10:45** **Coffee break**
- 10:45** *Petar Getsov, Georgi Sotirov – SRI-BAS*  
*Dobrin Seizinski, Svetlozar Asenov – Technical University-Plovdiv*  
Експлоатацията на самолет МиГ-29 по техническо състояние – нова перспективна форма за обслужване и ремонт  
Exploitation of MIG-29 by Technical Condition - New Perspective Form for Maintenance and Repair

- 11:00** *Dobrin Seizinski, Svetlozar Asenov, S. Penchev – Technical University-Plovdiv*  
 Възможности за експлоатация на двигателя РД – 33 по техническо състояние  
 Operation Exploitation Potentialities of the Engine RD-33 According to Technical Condition
- 11:15** *Georgi Sotirov – SRI-BAS*  
 Изследване на шумоустойчивостта на моноимпулсна система за полуактивно самонасочване  
 Jamming Resistance Study of Monopulse Semiactive Guidance System
- 11:30** *Georgi Sotirov – SRI-BAS*  
 Оценка на шумоустойчивостта на системите за управление, наблюдение и предаване на данни от безпилотни летателни апарати  
 Evaluation of Jamming Resistance on Board Command, Observation and Data Transmmission Systems from Unmanned Air Vehicles
- 11:45** *Iliia Peev – High Marine Military School-Varna*  
 Моделът на мрежово-центричната война и измененията в подготовката на войските и менталитета на военните лидери  
 The Network-Centric Warfare Model and the Changes in the Training of the Military Forces and in the Mentality of the Military Leaders
- 12:00** *Petar Genov, Stoyan Tanev, Plamen Trendafilov – SRI-BAS*  
 Операторът като част от система за въздушно телевизионно наблюдение  
 Operator as a Part of an Airborne Television Surveillance System
- 12:15** *Petar Genov, Stoyan Tanev, Plamen Trendafilov – SRI-BAS*  
 Определяне на координатите на земни обекти от борда на безпилотен летателен апарат  
 Coordinates Determination of Land Objects from UAV Board
- 12:30** *Ognyan Petrov, Boytcho Boytchev – SRI-BAS*  
 Системи за наблюдение в оптичния диапазон за безпилотни летателни апарати  
 Systems for Observation in Optical Range for Unmanned Air Vehicles

### **Poster Session:**

- 8-1** *Zhivko Zhekov, Garo Mardirossian – SRI-BAS*  
 Двукомпонентна панкратична система за колиimator  
 Dual Component Pancratic System for Collimator
- 8-2** *Zhivko Zhekov – SRI-BAS*  
 Методика за проверка и юстировка на стенд колиimator  
 Method for Control of Stand Collimator
- 8-3** *Peter Stoyanov, Georgi Kiprova, Vencislav Markov, Mihail Mihov – SRI-BAS*  
 Космическо разузнаване. Спътникови системи за радиоелектронно разузнаване  
 Space Reconnaissance Satellite Systems Radio Reconnaissance
- 8-4** *Peter Stoyanov, Georgi Kiprova, Vencislav Markov, Mihail Mihov – SRI-BAS*  
 Космическо разузнаване. Спътникови системи за ранно предупреждение  
 Space Reconnaissance Satellite Systems for Early Warning

- 8-5** *Mladen Mladenov – Rakovski Defence and Staff College, DARI*  
Електронно-оптични преобразуватели в оптикоелектронните системи за наблюдение – състояние и развитие  
Electrical Optic Transformator in Optic Electrical Surveillance Systems – State and Progress
- 8-6** *Mladen Mladenov – Rakovski Defence and Staff College, DARI*  
Някои виждания за разширяване на възможностите на прибори за нощно наблюдение  
Some Ideas for Extension Possibilities of Night Surveillance Devices
- 8-7** *Valentin Radev, Valentin Ivanov – Rakovski Defence and Staff College, DARI*  
Математичен модел на изтичане на барутни газове през срязан уплътнителен пръстен за гладкостволни минохвъргачни системи
- 8-8** *Valentin Radev, Valentin Ivanov – Rakovski Defence and Staff College, DARI*  
Метод за проектиране на срязан уплътнителен пръстен за минохвъргачни системи с гладко тяло
- 8-9** *Valentina Tzekova, Mladen Mladenov – Rakovski Defence and Staff College, DARI*  
Относно възможностите на телевизионните камери за въздушно наблюдение и разузнаване  
About Capabilities of the TV Cameras for Aerial Surveillance and Reconnaissance
- 8-10** *Branimir Zhekov – Rakovski Defence and Staff College, DARI*  
Един подход за оценка на ефективността на информационната защита
- 8-11** *Branimir Zhekov – Rakovski Defence and Staff College, DARI*  
Управление на качеството и проекти по аквизиция – стандарти и практика

## Session 9

### Small Satellite BalkanSat

**16.06.2005 (Friday)**

**Hall 1**

**Chairman: Prof. Vyacheslav Rodin**

**Secretary: Res. Fell. Maria Dimitrova**

**12:45 Вячеслав Родин, Вадим Ангаров – Институт космических исследований-РАН**

Сравнительные характеристики микроспутников „Чибис” и „БалканСат”

**13:00 Олег Кораблёв, И. Виноградов – Институт космических исследований-РАН**

Микроспектрометр парниковых газов

**13:15 Станислав Климов – Институт космических исследований-РАН,**

**Георги Станев – ИКИ-БАН,**

**Боян Киров – ЦЛСЗВ-БАН**

Электромагнитные параметры космической погоды

**13:30 Евгений Лупян – Институт космических исследований-РАН**

Роль микроспутниковых платформ в системе мониторинга природных и техногенных катастроф

**13:45 Konstantin Metodiev, Petar Getsov – SRI-BAS**

Определяне на териториалното покритие на изкуствен спътник на Земята, движещ се по кръгова орбита

Earth Coverage Determination of a Satellite Traveling along Circular Orbit

**16.06.2006 (Friday)**

**Hall 1**

**14:00 Closing Ceremony**