Program For The Sixth U S Russian Space Surveillance Workshop

AUGUST 22 MONDAY

09:00 Opening of the 6th US Russian Space Surveillance Workshop

A. Stepanov  Pulkova Observatory
K.T. Alfriend  Texas A & M
K. Miller  AFOSR
S. Veniaminov  SRC "Kosmos"
H. Klinkrad  ESA

10:00 Session 1 Space Surveillance Systems & Operations; Chair: S. Veniaminov

10:00 - 10:45 OPTICAL OBSERVATIONS IN A PROPOSED EUROPEAN SPACE SURVEILLANCE NETWORK
Thomas Schildknecht

10:45 – 11:15 Coffee Break

11:15 - 12:00 A STATEMENT OF NEAR-EARTH SPACE MONITORING PROBLEM
V.I. Kolin’ko, V.A. Sautkin

12:00 - 12:45 EVOLVING SPACE SURVEILLANCE CAPABILITIES – MATHEMATICAL FRAMEWORK FOR EVALUATING FUTURE SURVEILLANCE NETWORKS
Susan E. Andrews

12:45 – 13:45 Lunch

AUGUST 22 MONDAY AFTERNOON

13:45 Session 2 Orbital Debris: Chair: J. Liu

13:45 - 14:30 PROBLEMS OF THE CATALOGUE MAINTENANCE FOR FAINT GEO OBJECTS
V. Agapov, V. Biryukov, S. Kamensky, I. Molotov, V. Rumyantsev, A. Sochilina, V. Titenko

14:30 - 15:15 SATELLITE ORBITAL CONJUNCTION REPORTS ASSESSING THREATENING ENCOUNTERS IN SPACE (SOCRATES)
T.S. Kelso, Salvatore Alfano

15:15 – 15:45 Coffee Break

15:45 - 16:30 RE-ENTRY PREDICTION AND ON-GROUND RISK ASSESSMENT
Heiner Klinkrad
16:30 - 17:15 A STUDY OF THE SURFACE ENVELOPING THE TRAJECTORY FAMILY OF PARTICLES ISOTROPICALLY EJECTED BY A SATELLITE BURST WITH ACCOUNT OF NODES AND PERICENTER MOTION
K.V. Kholshevnikov, S.A. Orlov

17:15 Opening Reception

AUGUST 23 TUESDAY MORNING

09:00 Session 3: Space Surveillance A: Chair: H. Klinkrad

09:00 - 09:45 ON THE THEORY AND SOME SPECIFIC METHODS FOR SEARCHING SPACE OBJECTS BY USE OF ROUGH ORBITAL INFORMATION
S. Veniaminov, V. Zavaliy, Yu. Tretyakov, V. Pyrin, V. Lapukhin

09:45 - 10:30 CHANGE
David A. Vallado

10:30 – 11:00 Coffee Break

11:00 – 11:45 THE RESULTS OF THE COORDINATED RADAR- OPTICAL OBSERVATIONS OF THE LEO SPACECRAFTS WITH THE ISTP SB RAS EXPERIMENTAL SETUP
V. Khakhinov; A. Medvedev; V. Lebedev; V. Goriashin; Y. Karavaev; O. Yurysheva and P. Papushev

11:00 – 11:45 SMALL APERTURE TELESCOPE AUGMENTATION (SATA) STUDY
R. L. Lambour

11:45 -13:00 Lunch Break

AUGUST 23 TUESDAY AFTERNOON

13:00 Session 4: Atmospheric Density: Chair: A. Nazarenko

Bruce R. Bowman

13:45 – 14:30 REVIEW OF RESULTS ON ATMOSPHERIC DENSITY CORRECTIONS
Vasiliy S. Yurasov, Andrey I. Nazarenko, Kyle T. Alfriend, Paul J. Cefola

14:30 - 15:15 DENSITY VARIATIONS IN THE UPPER ATMOSPHERE DURING SEVERAL SOLAR CYCLES DETERMINED FROM SATELLITE DRAG MEASUREMENTS
S. Knowles
15:15 – 16:00 pm Coffee Break

16:00 – 16:45 APPLICATION OF THE ARIMA MODEL TO ANALYZE AND FORECAST THE TIME SERIES OF DENSITY CORRECTIONS FOR NRLMSIS-00
Vasily S. Yurasov, Andrey I. Nazarenko, Paul J. Cefola, Kyle T. Alfriend

16:45 – 17:30 DRAG COEFFICIENT VARIABILITY AT 175-500 KM FROM THE ORBIT DECAY ANALYSIS OF SPHERES
Bruce R. Bowman

AUGUST 24 WEDNESDAY MORNING

09:00  Session 5: Orbit Determination: Chair: Z. Khutorovsky

09:00 - 09:45 AN ALGORITHM OF PRELIMINARY HEO ORBITAL PARAMETERS DETERMINATION BASED ON THREE OPTICAL POSITIONAL MEASUREMENTS
V.F. Boykov, Z.N. Khutorovsky, N.N. Sbytov

09:45 – 10:30 ON A NEW VERSION OF THE ORBIT DETERMINATION METHOD
A.S. Sochilina, R. Kiladze

10:30 – 11:00 Coffee break

11:00 – 11:45 NONLINEAR BAYESIAN FILTERING FOR ORBIT DETERMINATION AND PREDICTION
Kyle T. Alfriend and Deok-Jin Lee

11:45 – 13:00 Lunch Break

AUGUST 24 WEDNESDAY AFTERNOON

13:00  Session 6: Optical Systems and Observations: Chair: T.S. Kelso

13:00 – 13:45 THE OBSERVATIONS OF THE NEAR-EARTH OBJECTS WITH THE ZA-320M PULKOVO TELESCOPE

13:45 – 14:15 NEW WIDE FIELD CAMERA FOR SEARCH FOR FAST OPTICAL TRANSIENTS

14:15 – 15:00 Coffee Break
15:00 – 15:45 PULKOVO COOPERATION FOR RADAR AND OPTICAL OBSERVATIONS OF SPACE OBJECTS

15:45 – 16:30 OBSERVATION OF LOW-MASS AND SMALL-SIZE SPACE OBJECTS USING GROUND-BASED OPTOELECTRONIC MEANS
S.E. Zdor, V.I. Kolinko, V.V. Titenko

18:00 Workshop Dinner

**AUGUST 25 THURSDAY – EXCURSION**

**AUGUST 26 FRIDAY MORNING**

09:00 Session 7: Space Surveillance B: Chair: V. Yurasov

09:00 – 09:45 THE RESULTS OF THE OBSERVATIONS OF THE LEO SPACECRAFTS AT THE EXPERIMENTAL HIGH-POTENTIAL INCOHERENT SCATTERED RADAR
A.V. Medvedev, A.P. Potekhin, A.V. Zavorin V.P. Lebedev, V.V. Khakhinov and D.S. Kushnarev

09:45 – 10:30 USING EOP AND SOLAR WEATHER DATA FOR REAL-TIME OPERATIONS
David A. Vallado

10:30 -11:15 Coffee Break

11:15 – 12:00 A CONCEPT OF THE PURPOSEFUL STUDY OF DYNAMICS OF THE MAN-CAUSED CONDITIONS ON GEOSTATIONARY ORBITS (GEO) FOR THE SPACE VEHICLE UNDER DEVELOPMENT
A.F. Klishin, G.D. Gotovtsev

12:00 – 12:45 INDICES OF THE BACKGROUND MAGNETIC FIELD AND THE POLAR ACTIVITY OF THE SUN
V.I. Makarov

12:45 – 13:30 Lunch Break

**AUGUST 26 FRIDAY AFTERNOON**

13:30 Session 8: Deep Space: Chair: P. Cefola
13:30 – 14:15 RELATIVE ORBIT DETERMINATION OF GEOSYNCHRONOUS SATELLITES USING THE COWPOKE EQUATIONS
C. Sabol, K. Hill, C. McLaughlin, K.K. Luu and M. Murai

14:15 – 15:00 A NEW THEORY OF GEOSTATIONARY SATELLITE MOTION AND ITS APPLICATIONS
Rolan I. Kiladze

15:00 – 15:30 Coffee Break

15:30 – 16:15 ON OBSERVATIONS OF SATELLITES AT THE HISSAR OBSERVATORY
M.I. Gulyamov

16:15 - 17:00 OPTICAL FACILITIES FOR SPACE OBJECT OBSERVATIONS: SPACE CONTROL AND ANALYSIS (UKRAINE)
V.V. Lopachanko

17:00-17:45 OBSERVATIONS OF HEO AT THE ODESSA ASTRONOMICAL OBSERVATORY (UKRAINE)
P.Sukhov

17:45 - 18:15 Closing

Russian Summary  S. Veniaminov

US Summary  T. Alfriend

Workshop Closing  Kent Miller