10th International Workshop

Strong Microwaves and Terahertz Waves: Sources and Applications

P R O G R A M

Nizhny Novgorod – Moscow, Russia
July 17 – 22, 2017

Topical Symposia of the Workshop

- **Symposium A:**

  High-power microwave applications
  (including accelerators, radars, gas discharges, material processing, biomedical applications, etc.)

- **Symposium H:**

  Current drive and plasma heating by microwaves in nuclear fusion devices

- **Symposium S:**

  High-power microwave sources

- **Symposium T:**

  Extreme and nonlinear terahertz science

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MONDAY, July 17

0:00 – 9:00	**REGISTRATION**
9:00	**DEPARTURE FROM NIZHNY NOVGOROD**
9:00 – 10:00	BREAKFAST
10:00 – 10:30	**OPENING SESSION (Hall A)**
10:30 – 12:00	**PLENARY SESSION (Hall A)** P.1: **J. Stober** *(Max-Planck-Institut für Plasmaphysik, Germany)*, Overview of ECH experiments in Europe and their future prospects P.2: **G. Denisov** *(Institute of Applied Physics, Russia),* New trends in gyrotron development P.3: **Y. Oda** (*QST, Japan),* Recent activities of ITER gyrotron development in QST
12:00 – 12:30	COFFEE BREAK
12:30 – 14:00	**PLENARY SESSION (Hall A)** P.4: **P. Bagryansky** *(Budker Institute of Nuclear Physics, Russia),* A new outlook on the magnetic mirror approach to fusion P.5: **O. Tarvainen** *(University of Jyväskylä, Finland)*, Electron cyclotron resonance ion sources - physics, technology and future challenges P.6: **V. Skalyga** *(Institute of Applied Physics, Russia),* Powerful neutron generators based on high current ECR ion sources with gyrotron plasma heating
14:00 – 15:00	LUNCH
15:00 – 17:00	**ORAL SESSIONS**

	Session S-1 (Hall A) S1.1 (invited): **Y. Lau**, Crossed-field flows S1.2 (invited): **S. Samsonov**, Development of gyrotron traveling-wave tubes at IAP and GYCOM S1.3: **V. Zapevalov**, Non-canonical gyrotrons S1.4: **V. Manuilov**, Development of advanced electron optical systems for novel gyrotrons S1.5: **C. Wu**, Comparison between controlled nonadiabatic and E×B concepts for gyrotron multistage depressed collectors S1.6: **I. Zotova**, Generation of rogue waves in gyrotrons with high excess over the threshold	**Session A-1 (Hall B)** A1.1 (invited): **O. Brinza**, CVD Diamond growth and defects: status and remaining challenges A1.2: **V. Ralchenko**, Express *in-situ* measurement of single crystal diamond growth/etching rate in microwave plasma: how to perform multiparametric kinetics study in one working day A1.3: **Yu. Lebedev**, Microwave discharge in liquid hydrocarbons A1.4: **S. Bogdanov**, Influence of CVD diamond growth conditions and misorientation angle on nitrogen incorporation A1.5: **V. Kukushkin**, Diamond Bragg superlattice grown in microwave gas discharge for obtaining photoluminescence of single diamond color centers comprising a dense 3D ensemble	**Session H-1 (Hall C)** H1.1 (invited): **J.-G. Kwak**, ECH issues toward steady state operation at KSTAR H1.2 (invited): **V. Minaev**, Globus-M2 spherical tokamak and its mission in developing of compact fusion neutron source H1.3: **F. Leuterer**, Experimental study of Ohmic losses of polarizer mirror system H1.4: **G. Granucci**, The EC-system of EU DEMO: concepts for a reactor heating system H1.5: **D. Wagner**, Extension of the multi-frequency ECRH System at ASDEX Upgrade H1.6: **H. Braune**, Enhancements of the W7-X ECRH facility with respect to the next experiment campaign OP1.2
17:00 – 17:30	COFFEE BREAK		

	ORAL SESSIONS		
	Session S-2 (Hall A) S2.1 (invited): **S. Ruess**, European research activities towards a future DEMO gyrotron S2.2: **L. Popov**, Super-high power gyrotrons for electron-cyclotron plasma heating S2.3: **E. Di Palma**, The CARM beam-wave interaction and cavity design S2.4**: S. Ceccuzzi**, Comparison of reflector concepts for a 250 GHz CARM cavity S2.5: **G Dattoli**, From research and design work toward the realization of CARM source at ENEA	**Session A-2 (Hall B)** A2.1 (invited): **L. Sun,** Gyrotron frequency ECRIS development and the future challenges A2.2: **R. Shaposhnikov**, ECR discharge in a single solenoid field A2.3: **G. Link**, Investigation on mm-wave sintering of metal powder compacts using in-situ dilatometry and electrical resistivity measurements A2.4: **I. Volkovskaya**, Effective magnetic permeability of compacted metal powders at microwave frequencies	**Session T-1 (Hall C)** T1.1 (invited): **B. Knyazev**, Wave beams with orbital angular momentum: a step towards terahertz T1.2: **V. Bratman**, Coherent spontaneous THz undulator radiation from dense electron bunches formed in laser-driven photo-injectors T1.3: **N. Osintseva**, Terahertz Bessel beams with orbital angular momentum: diffraction and interference T1.4: **Yu. Choporova**, THz ellipsometry as a sensitive tool for measuring of the complex refractive index of liquids and biological substances T1.5: **I. Ilyakov**, Terahertz time-domain measurements by electro-optic crystals with various symmetries
17:30 – 19:00			
20:00 – 22:00	WELCOME PARTY		

TUESDAY , July 18

7:30 – 8:30	BREAKFAST
8:30 – 10:00	**PLENARY SESSION (Hall A)** P.7: **M.H. Li** (*Institute of Plasma Physics, China*), ECRH system, microwave diagnostics and experimental results in the EAST tokamak P.8: **J. Lohr** *(General Atomics, USA)*, Update on the DIII-D ECH system: experiments, gyrotrons, advanced diagnostics, and controls P.9: **A. Romannikov** *(NRC "Kurchatov Institute", Russia)*, Medium size tokamak T-15MD as a base for experimental fusion research in Russian Federation
10:00 – 10:30 **10:00 – 11:30**	COFFEE BREAK, Stop in Plyos
12:00 – 13:30	**PLENARY SESSION (Hall A)** P.10: **M. Glyavin** *(Institute of Applied Physics, Russia),* Development and applications of THz gyrotrons P.11: **F. Engelke** *(Bruker Biospin GmbH, Germany)* Sub-THz technology for dynamic nuclear polarization in nuclear magnetic resonance (DNP NMR): transverse confinement of microwave propagation through heterogeneous solid DNP samples P.12: **M. Blank** *(CPI, USA)* High power and high frequency gyrotron development at CPI
14:00 – 15:00	LUNCH
15:30 – 18:00	EXCURSION TO KOSTROMA

18:00 – 20:00	**POSTER SESSION: Symposia S, T** SP.1: **A. Adilova**, Planar slow-wave structures for miniaturized low-voltage Cherenkov devices SP.2: **G. Sominskii**, Prospective field emitters for miniature high voltage electronic devices operating at technical vacuum conditions SP.3: **A. Adilova**, Synchronization of delay-coupled gyrotron oscillators SP.4: **M. Kulygin**, 260 GHz CW gyrotron heating substitution with second-long laser pulses in waveguide semiconductor switches SP.5: **A. Sergeev**, Theoretical and experimental investigations of oversized Ka-band surface-wave oscillator based on 2D periodical corrugated structure SP.6: **A. Tsvetkov**, 45GHz/20kW gyrotron setup with automated output power control for ECR ion source SP.7: **A. Tsvetkov**, A quasi-optical input for a whispering-gallery-mode gyro-twystron SP.8: **M. Proyavin**, Development of high-efficient gyrotron based complex for industrial applications SP.9: **K. Leshcheva,** Non-adiabatic electron-optical system for 170GHz/1MW/CW gyrotron SP.10: **V. Manuilov**, Development of field emitter non-adiabatic electron optic system for the spectroscopic 263 GHz/CW gyrotron SP.11: **A. Fokin**, Influence of weak reflection from a nonresonant load on the operation frequency of the 28 GHz technological gyrotron SP.12: **V. Bratman**, Non-relativistic hollow electron beam formation for mm-wave BWO SP.13: **V. Bratman**, Progress in the development of low-voltage gyrotron for integration with NMR spectrometer SP.14: **S. Mishakin**, Thermal analysis of gyro-amplifiers with helically corrugated waveguides

	SP.15: **M. Vilkov**, Ultrashort pulse generation based on two coupled helical gyro-TWTs SP.16: **A. Malkin**, Amplification of short-wavelength radiation by relativistic electron beams moving near the impedance surfaces SP.17: **M. Morozkin**, Collector system of a gyrotron with magnetically shielded solenoid SP.18: **I. Zotova**, Modulation of microwave radiation in the process of resonant interaction with a counter-propagating rectilinear electron beam SP.19: **V. Tarakanov**, PIC-simulation of efficient Cherenkov X-band and V-band HPM sources with moderately relativistic electron beams SP.20: **V. Tarakanov**, Time-dependent numerical simulation of diffraction and absorption effects in diagnostics of short high-power microwave pulses using wideaperture liquid calorimeters SP.21: **A. Adilova**, Modeling of a 0.4 THz second-harmonic frequency-tunable gyrotron with complex cavity TP1: **A. Phelps**, Pseudospark excited sub-THz frequency sources TP2: **B. Shokri**, Terahertz radiation of a metamaterial sphere excited by a relativistic revolving bunch TP3: **A. Frolov**, Generation of terahertz radiation in the interaction of a laser pulse with clusters TP4: **A. Frolov**, Excitation of THz surface waves in the conductor by a drag current generated by a focused femtosecond pulse TP5: **A. Arzhannikov**, Electrodynamic system for two-stage THz-generator on the base of two-channel planar FEM TP6: **I. Osharin**, Terahertz gyrotrons with quasi-regular cavities TP7: **Yu. Oparina**, Spontaneous coherent cyclotron THz super-radiation from a short dense photo-injector electron bunch

20:00 – 21:00	DINNER
21:00 – 22:00	CONCERT

WEDNESDAY, July 19

7:30 – 8:30	BREAKFAST		
8:30 – 10:00	**PLENARY SESSION (Hall A)** P.13: **T. Grotjohn** *(Michigan State University, USA)*, Microwave plasma-assisted deposition of diamond for electronic applications P.14: **A. Vikharev** *(Institute of Applied Physics, Russia),* CVD diamond with boron-doped delta-layers deposited by microwave plasma P.15: **V. Luchinin** *(St. Petersburg State Electrotechnical University "LETI", Russia),* The composition "diamond - silicon carbide" in extreme electronics		
10:00 – 14:00	EXCURSION TO YAROSLAVL'		
14:00 – 15:00	LUNCH		
15:00 – 16:30	**ORAL SESSIONS**		
	Session T-2 (Hall A)	**Session A-3 (Hall B)**	**Session H-2 (Hall C)**
	T2.1 (invited): **S. Kozlov**, The nonlinearity of the refractive index of optical media in the terahertz spectral range T2.2: **A. Arzhannikov**, Study of 0.3-0.8 THz flux generated by magnetized plasma column due to relaxation of high-current REB T2.3: **V. Kubarev**, Instabilities, coherency, and spectra of the NovoFEL radiation T2.4: **A. Savilov**, Super-radiative self-compression of photo-injector electron bunches and the use of this effect for realization of a THz source based on spontaneous coherent emission from a short dense electron bunch	A3.1 (invited): **A. Vodopyanov**, Sources of ultraviolet light based on microwave discharges A3.2: **Y. Oda**, A study of RF power station for microwave rocket launch system A3.3: **M. Takahashi**, Numerical modeling for microwave breakdown on a beaming rocket supported by an external magnetic field A3.4: **G. Sotnikov**, Excitation of wakefields by relativistic electron bunches in the dielectric waveguide filled with radially inhomogeneous plasma A3.5: **V. Vdovin**, Data rates of SubTHz wireless telecommunication channels	H2.1 (invited): **A. Shalashov**, Electron-cyclotron waves in large-scale open traps: new questions highlighted by recent experiments H2.2: **P. Bagryansky**, Stable plasma confinement with auxiliary ECR heating in a gas dynamic trap H2.3: **E. Gospodchikov**, Plasma heating by microwaves in high-β devices H2.4: **P. Aleynikov**, 3D full-wave modelling and mode conversion in realistic W7-X plasmas H2.5: **A. Shalashov**, Quasi-optical approach for inhomogeneous dissipative media with high-order spatial dispersion
16:30 – 17:00	COFFEE BREAK		

17:00 – 19:00	**ORAL SESSIONS**

	Session S-3 (Hall A) S3.1: **P. Strelkov**, Plasma relativistic microwave amplifier S3.2: **A. Kaminsky**, Development of powerful Kaband FEM-amplifiers with broad frequency tuning S3.3: **N. Peskov**, Powerful narrow-band relativistic masers with Bragg resonators operating from mm to sub-mm wavelength band: resent results and prospects S3.4: **A. Malkin**, Surface-wave Bragg resonators for terahertz frequency range S3.5: **M. Fuks**, Magnetron on a lengthy virtual cathode with a magnetic mirror	**Session A-4 (Hall B)** A4.1 (invited): **K. Hassouni**, High power density microwave plasmas for diamond deposition A4.2: **V. Yurov**, Optical emission spectroscopy for diagnosis of diamond growth and etching processes in microwave plasma A4.3: **M. Lobaev**, Dependence of boron incorporation in delta layers on CVD diamond growth process and misorientation angle A4.4: **M. Fukunari**, Experiments on the millimeterwave discharge in atmosphere at 170 GHz and 28 GHz in the subcritical condition A4.5: **K. Hamasaki**, Numerical study of discharge physics induced by a subcritical microwave under air atmosphere	**Session T-3 (Hall C)** T3.1 (invited): **A. Shkurinov**, Introduction into nonlinear THz photonics: basis and their potential applications T3.2 (invited): **A. Stepanov**, Strong terahertz fields: interaction with condensed matter and electron acceleration T3.3: **Y. Li**, Bursts of terahertz radiation from relativistic laser-plasma interactions T3.4: **A. Ushakov**, 3D terahertz beam profiling from two color laser induced plasma with different focusing T3.5: **D. Sitnikov**, Generation of high power terahertz pulses and applications
19:00 – 20:00	DINNER		
20:30 – 21:30	CONCERT		

THURSDAY, July 20

8:00 – 9:00	BREAKFAST
09:00 – 10:00	**PLENARY SESSION (Hall A)** P.16: **J. Li** (*Institute of Plasma Physics, China*), ECRH on CFETR - physics and technology needed P.17: **E. Gusakov** *(Ioffe Institute, Russia),* Anomalous absorption in ECRH experiments due to parametric excitation of localized UH waves
10:00 – 13:00	TIME IN COPRINO
13:00 – 14:30	**PLENARY SESSION (Hall A)** P.18: **A. Krasilnikov** *(Institution "Project Center ITER", Russia),* Status of ITER program P.19: **W. Kasparek** *(Institute of Interfacial Process Engineering and Plasma Technology, Germany)*, Optics for electron cyclotron resonance heating and collective Thomson scattering at the stellarator W7-X P.20: **M. Yalandin** *(Institute of Electrophysics, Russia)*, Relativistic microwave oscillators with high power flux in a free space and interaction zone
14:30 – 15:30	LUNCH
15:30 – 17:00	**ORAL SESSIONS**

	Session S-4 (Hall A)	Session H-3 (Hall B)	Session T-4 (Hall C)
	S4.1 (invited): **M. Thumm**, The gyrotron – a natural source of high-power orbital angular momentum millimeter-wave beam	H3.1 (invited): **A. Melnikov**, ECRH effect on the electric potential in toroidal plasmas (overview of recent T-10 tokamak and TJ-II stellarator results)	T4.1: (invited) **Y. Matsuki**, Advanced instrumentations for DNP-enhanced solid-state NMR and biological applications
	S4.2: **S. Ruess**, Design and manufacturing process for the KIT 2-MW 170-GHz coaxial-cavity longerpulse gyrotron	H3.2: **S. Lebedev**, Observation of ion cyclotron emission from Ohmically and NBI heated plasmas in TUMAN-3M tokamak	T4.2: (invited) **S. Morozov**, THz and multi-THz lasers based on HgCdTe quantum well nanostructures
	S4.3: **A. Marek**, Simulation of electromagnetic fields scattered from arbitrary shaped electric conductors	H3.3: **K. Brunner**, Continuous high power microwave heating at the W7-X stellarator	T4.3: **M. Fukunari**, Study on starting current and oscillation frequency of a multi-frequency-band frequency tunable gyrotron
	S4.4: **M. Petelin**, Grating-based millimeter-wave quasi-optical components	H3.4: **S. Lashkul**, Isotopic effect in experiments on lower hybrid current drive in the FT-2 tokamak	T4.4: **O. Cherkasova**, Terahertz spectroscopy for diabetes diagnostics
	S4.5: **D. Sobolev**, Polarization-dependent TE_{11}-to-TE_{11}/TE_{01} waveguide mode converter for transmission line mode switching	H3.5: **L. Simonchik**, Decay of the X-mode into two upper-hybrid plasmons in the plasma filament. Experimental modeling and theoretical description	T4.5: **A. Arzhannikov**, High-performance spectrally selective pyroelectric detection of millimeter and submillimeterwaves using ultra-thin metasurface absorbers
17:00 – 17:30	COFFEE BREAK		

	POSTER SESSION: Symposia A, H
17:30 – 19:00	AP.1: **K. Shimamura**, Development of 94 GHz MEMS rectifier for wireless power transfer applications AP.2: **S. Prasanna**, Effect of methane on stability of plasma in a MW-assisted hydrogen-methane plasma AP.3: **M. Dukhnovsky**, Simulation of thermal fields in the output window of electrons from polycrystalline diamond for electron gun AP.4: **Yu. Fedorov**, Diamond window for electron gun AP.5: **N. Kharchev**, Use of microwave pulse train for plasma-chemical experiments on high-pressure discharges AP.6: **A. Sorokin**, Microstructure of the microwave fast-sintered $MgAl_2O_4$ ceramics AP.7: **A. Vodopyanov**, High rate production of nanopowders by the evaporation–condensation method using gyrotron radiation AP.8: **T. Krapivnitskaia**, High-temperature microwave pyrolysis of peat as a method to obtaining liquid and gaseous fuels AP.9: **I. Abramov**, Theory of resonant stationary discharge with multiply charged ions in plasma flow propagating in mirror magnetic trap AP.10: **I. Izotov**, Study of plasma parameters in a continuous ECR discharge sustained by 24 GHz/5 kW gyrotron radiation in a quasi-gasdynamic mode AP.11: **R. Lapin**, First experiments on applying the gasdynamic ECR ion source for negative hydrogen ion production AP.12: **S. Golubev**, New approach for a “point-like” neutron source creation based on sharp focusing of a high quality deuteron beam produced by high-current gasdynamic ECR ion source AP.13: **A. Tsvetkov**, Reaching high sensitivity of radio-acoustic spectroscopy using «strong microwaves» AP.14:**A. Vikharev**, Study of grown single crystal diamond by optical and X-ray spectroscopy AP.15: **V. Zapevalov**, High-power microwaves against locusts and other harmful animals AP.16: **S. Razin**, Gas breakdown by a focused beam of THz waves AP.17: **S. Razin**, Light emission properties of a discharge induced in a gas flow by terahertz waves in the vacuum and extreme ultraviolet range AP.18: **M. Glyavin**, A possibility of remote detection of air breakdown in a focal spot of microwave beam using reflected signal AP.19: **M. Glyavin**, Theory of initial stage of the breakdown in non-uniform gas flow HP.1: **S. Hansen**, Parametric decay instability near the upper hybrid resonance and anomalous mm-wave scattering in tokamak and stellarator plasmas HP.2: **I. Roy**, Status and design of ECRH/CD system of the upgrade of the tokamak T-15 HP.3: **E. Gospodchikov**, Quasi-optical approach to reconstruction of plasma fluctuations using amplitude distribution of transmitted microwave beam HP.4: **E. Gospodchikov**, Electron cyclotron heating and diagnostics of plasma at the second harmonic in the GDT device
19:15 – 22:00	CONFERENCE DINNER

FRIDAY, July 21

8:00 – 9:00	BREAKFAST
9:00 – 12:00	EXCURSION TO TVER
12:00 – 12:30	COFFEE BREAK

12:30 – 14:00	**PLENARY SESSION (Hall A)** P.21: **T. Ozaki** *(INRS-EMT, Canada)* Advances in nonlinear THz optics at the Canadian Advanced Laser Light Source – from bleaching to harmonic generation P.22: **N. Matlis** *(Deutsches Elektronen-Synchrotron DESY, Germany)* Acceleration of electrons in THz driven structures P.23: **N. Ginzburg**, *(Institute of Applied Physics, Russia),* Generation of single and periodically repeated powerful ultrashort microwave pulses		
14:00 – 15:00	LUNCH		
15:00 – 16:30	**ORAL SESSIONS**		
	Session S-5 (Hall A) S5.1 (invited): **G. Nusinovich**, Review of the gyrotron theory S5.2: **S. Copplestone**, Simulation of gyrotrons using the high-order particle-in-cell code PICLas S5.3: **P. Ortwein**, Benchmarking a high-order particle-in-cell code for the simulation of a gyrotron traveling wave tube S5.4: **Yu. Novozhilova**, Influence of mode competition and external wave frequency modulation on gyrotron frequency locking S5.5: **A. Fokin**, High precision frequency stabilization of a 263 GHz continuous wave gyrotron	**Session A-5 (Hall B)** A5.1 (invited): **A. Galdetskiy**, Cooperation and competition of solid state and vacuum microwave devices in radar applications A5.2: **N. Skvortsova**, Synthesis of micro- and nanostructures with controllable composition in the chain plasma-chemical reactions initiated by the radiation of a powerful gyrotron in the mixtures of metaldielectric powders A5.3: **S. Sedykh**, Influence of intense coherent electromagnetic radiation on several types of radioactive decay A5.4: **L. Simonchik**, Microwave pulse delay at propagation through the 1D electromagnetic crystals	**Session H-4 (Hall C)** H4.1 (invited): **D. Mansfeld**, Kinetic instabilities in non-equilibrium plasma: a review of observations H4.2: **A. Phelps**, Laboratory experiments simulating electron cyclotron masers in space H4.3: **M. Viktorov**, Observation of multiple chirping events in electron cyclotron emission of nonequilibrium mirror-confined plasma H4.4: **A. Bruschi**, Fast events detection with the CTS diagnostic on FTU and plans for improvement
16:30 – 17:00	COFFEE BREAK		

17:00 – 18:30	**ORAL SESSIONS**

	Session S-6 (Hall A) S6.1 (invited): **A. Phelps**, Progress in microwave to sub-THz sources at Strathclyde S6.2: **I. Chelis**, Development of a self-consistent simulation code for the electron cyclotron interaction in dielectric-loaded gyrotron beam tunnels S6.3: **V. Tarakanov**, Code KARAT in simulations of power microwave sources including Cherenkov plasma devices, vircators, orotron, E-field sensor, calorimeter etc. S6.4: **V. Zaslavsky**, Simulations of powerful microwave oscillators with oversized electrodynamics systems S6.5: **A. Leontyev**, W-band 5 MW pulse relativistic gyrotron. Development and experimental implementation	**Session T-5 (Hall B)** T5.1: **W. Fu**, Harmonic terahertz gyrotron with quasioptical confocal cavity T5.2: **X. Yuan**, A 0.22 THz gyrotron based on carbon nanotube cold cathode T5.3: **V. Bulgakova**, Sub-wavelength plane gratings for terahertz plasmonic sensing of liquids	**Session H-5 (Hall C)** H5.1: **Y. Zhao**, The design and verification of ECRH polarization control system on EAST H5.2: **D. Malakhov**, Filters for diagnostic of Doppler reflectometry on the L-2M stellarator for operation under conditions of high ECR heating power H5.3: **N. Kharchev**, ECR system for plasma heating at stellarator L-2M H5.4: **J. Xie**, Interferometer system for Keda Torus eXperiment using terahertz solid-state diode sources
19:00 – 19:30	**CLOSING SESSION (Hall A)**		
20:00 – 21:00	DINNER		
21:00 – 22:00	CONCERT		

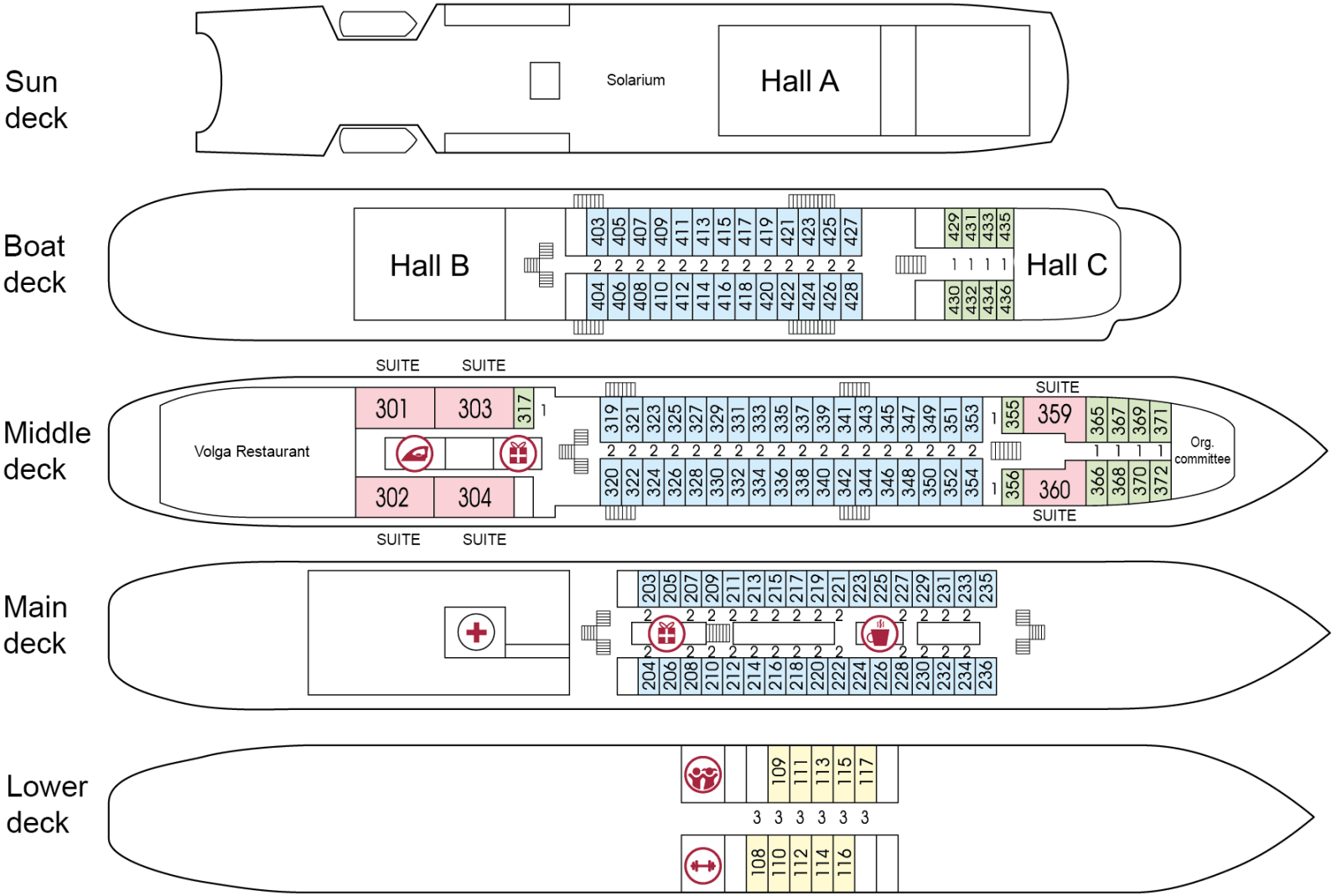
SATURDAY, July 22

8:00 – 9:00	BREAKFAST
9:00	**ARRIVAL IN MOSCOW**

Workshop Timetable

Time	Monday, July 17	Tuesday, July 18	Wednesday, July 19	Thursday, July 20	Friday, July 21	Saturday, July 22
07:30	0:00 – 9:00 Registration	Breakfast	Breakfast			
08:00	9:00 Departure from Nizhny Novgorod			Breakfast	Breakfast	Breakfast
08:30		Plenary session **P7, P8, P9**	Plenary session **P13, P14, P15**			
09:00	Breakfast			Plenary session **P16, P17**	Excursion to Tver'	Arrival in Moscow
09:30						
10:00	Opening session	Coffee break, Stop in Plyos (10:00 – 11:30)	Excursion to Yaroslavl'	Stop in Coprino		
10:30	Plenary session **P1, P2, P3**					
11:00						
11:30						
12:00	Coffee break	Plenary session **P10, P11, P12**			Coffee break	
12:30	Plenary session **P4, P5, P6**			Plenary session **P18, P19, P20**	Plenary session **P21, P22, P23**	
13:00						
13:30						
14:00	Lunch	Lunch	Lunch	Lunch	Lunch	
14:30						
15:00	Oral sessions **S-1: Hall A** **A-1: Hall B** **H-1: Hall C**	Excursion to Kostroma	Oral sessions **T-2: Hall A** **A-3: Hall B** **H-2: Hall C**	Oral sessions **S-4: Hall A** **H-3: Hall B** **T-4: Hall C**	Oral sessions **S-5: Hall A** **A-5: Hall B** **H-4: Hall C**	
15:30						
16:00						
16:30			Coffee break		Coffee break	
17:00	Coffee break		Oral sessions **S-3: Hall A** **A-4: Hall B** **T-3: Hall C**	Coffee break	Oral sessions **S-6: Hall A** **T-5: Hall B** **H-5: Hall C**	
17:30	Oral sessions **S-2: Hall A** **A-2: Hall B** **T-1: Hall C**			Poster session **Symposia A and H**		
18:00		Poster session **Symposia S and T**				
18:30						
19:00	Welcome party		Dinner	Conference dinner	Closing session	
19:30						
20:00		Dinner			Dinner	
20:30			Concert			
21:00		Concert			Concert	
21:30						

"NIZHNY NOVGOROD" SHIP SCHEME


Sun deck
Solarium
Hall A
Boat deck
Hall B
Hall C
403 405 407 409 411 413 415 417 419 421 423 425 427
404 406 408 410 412 414 416 418 420 422 424 426 428
429 431 433 435
430 432 434 436
Middle deck
SUITE SUITE
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SUITE SUITE
Volga Restaurant
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Org. committee
Main deck
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Lower deck
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108 110 112 114 116