

The 3-rd Conference

Statistical Physics: Modern Trends and Applications

23–25 June 2009, Lviv, Ukraine

*Dedicated to the 100-th anniversary of
Mykola Bogolyubov (1909–1992)*

PROGRAMME AND ABSTRACTS

Lviv – 2009

Organizers

National Academy of Sciences of Ukraine
Kyiv, Ukraine

Institute for Condensed Matter Physics
of the National Academy of Sciences of Ukraine
Lviv, Ukraine

Ivan Franko National University of Lviv
Lviv, Ukraine

Lviv Polytechnic National University
Lviv, Ukraine

Ukrainian National Memory Institute
Kyiv, Ukraine

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Conference History

This Conference continues a tradition of the regular workshops in the statistical physics in Ukraine, established in the 1970-ies and renewed by:

- **“Statistical Physics 2005: Modern Problems and New Applications”**, August 28–30, 2005, Lviv, Ukraine.
- **“Statistical Physics 2006. Condensed Matter: Theory and Applications”**, September 11–15, 2006, Kharkiv, Ukraine (dedicated to the 90th anniversary of Ilya Lifshitz, founder of Condensed Matter Theory in Kharkiv).

The 3-rd Conference “Statistical Physics: Modern Trends and Applications” is held in June 23–25, 2009, in Lviv, Ukraine. It is dedicated to the 100-th anniversary of the famous theoretical physicist and mathematician Mykola Bogolyubov (1909–1992) and to the 40-th anniversary of the Department of Statistical Theory of Condensed States of Institute for Theoretical Physics (Kyiv), which formed the basis of the Institute for Condensed Matter Physics.

The Conference is organized in the form of invited lectures (about 30 min), contributed talks (about 20 min) and poster presentations. Official language of the Conference is English.

The Conference organizers plan to introduce the award for six best conference posters. Among these six posters, three posters will be selected by the jury of the poster session chairs and the other three by the participants of the Conference. In the latter case each participant will have several sticky markers, which can be used to mark the poster he/she likes. Three posters, which will collect the largest number of the markers, and three posters, selected by the jury, will be awarded.

Main topics

- Quantum many-particle systems
- Soft condensed matter
- Cooperative phenomena and phase transitions
- Non-equilibrium and transport phenomena
- Surface phenomena
- Exotic problems of statistical physics

Contacts

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The 3-rd Conference

“Statistical Physics: Modern Trends and Applications”

Programme

23–25 June 2009, Lviv, Ukraine

“Statistical Physics: Modern Trends and Applications”

Tuesday, 23 June, 2009

PLENARY MEETING

(I. Franko National University, Conference Hall)

9.30 – 10.00 OPENING CEREMONY

Chaired by W. EBELING (*Berlin, Germany*)

10.00 – 10.30 N. BOGOLUBOV JR. (*Moscow, Russia*)
Kinetic equation for a dynamic system interacting with phonon field in the case of spatial inhomogeneity

10.30 – 11.00 A. ZAGORODNY (*Kyiv, Ukraine*)
Effective grain interactions and negative friction in dusty plasmas

11.00 – 11.30 G. RUOCCO (*Roma, Italy*)
Aging and flow in a colloidal suspension

11.30 – 11.55 Coffee Break

Chaired by A. ZAGORODNY (*Kyiv, Ukraine*)

11.55 – 12.25 W. EBELING (*Berlin, Germany*)
Bound states of electrons with soliton-like excitations in one- and two-dimensional thermal systems

12.25 – 12.55 R. FOLK (*Linz, Austria*)
Biconical critical dynamics

12.55 – 13.25 F. MANCINI (*Salerno, Italy*)
Phase transitions in Ising chains

13.25 – 15.00 Lunch

23–25 June 2009, Lviv, Ukraine

15.00 – 16.40 SECTION SESSIONS (see pp. 11–12)

16.40 – 17.00 Coffee Break

17.00 – 18.10 SECTION SESSIONS (see pp. 13–14)

18.10 – 18.30 Opening of the exhibition about M.M. Bogolyubov

18.30 – 19.30 POSTER SESSION
(odd numbers of the list on pp. 26–36)

Chaired by: YU. KALYUZHNYI (*Lviv, Ukraine*)
B. LEV (*Kyiv, Ukraine*)
V. MOROZOV (*Moscow, Russia*)
H.W. DIEHL (*Duisburg, Germany*)
A. BIANCONI (*Roma, Italy*)
A. OLEMSKOI (*Sumy, Ukraine*)
J. SPALEK (*Kraków, Poland*)

Tuesday, 23 June, 2009
SECTION SESSIONS (15.00 – 16.40)

Section 4: **Non-equilibrium and transport phenomena**
(*Lviv Polytechnic National University, room 210*)

Chaired by F. IGLOI (*Budapest, Hungary*)

- 15.00 – 15.30 B. LEV (*Kyiv, Ukraine*)
Brownian motion as a model of evolution of nonequilibrium system (Keynote lecture)
- 15.30 – 16.00 S. KOSHIHARA (*Tsukuba/Tokyo, Japan*)
Dynamics of cooperative lattice-charge (spin) coupled phenomena under far equilibrium condition induced by fs laser light irradiation (Keynote lecture)
- 16.00 – 16.20 V. STEGAILOV (*Moscow, Russia*)
Theory, atomistic modeling and simulation of relaxation processes in condensed matter
- 16.20 – 16.40 M. KOVALEVSKY (*Kharkiv, Ukraine*)
On mutual influence of transport processes and inner structure in condensed media

Section 5: **Exotic problems of statistical physics**
(*Lviv Polytechnic National University, room 217*)

Chaired by B. BERCHE (*Nancy, France*)

- 15.00 – 15.30 C. VON FERBER (*Coventry, UK*)
Public transport networks under random failure and directed attack (Keynote lecture)
- 15.30 – 16.00 A. OLEMSKOI (*Sumy, Ukraine*)
Self-similarity degree of deformed statistical ensembles (Keynote lecture)
- 16.00 – 16.20 V. KHODUSOV (*Kharkiv, Ukraine*)
On application of the statistical theory for the description of industrial systems

- 16.20 – 16.40 B. DYBIEC (*Kraków, Poland*)
Stochastic resonance, synchronization and transport in systems driven by Lévy noises

Section 6: **Surface phenomena**
(*Lviv Polytechnic National University, room 225*)

Chaired by T. KOPP (*Augsburg, Germany*)

- 15.00 – 15.30 O. PIZIO (*Mexico city, Mexico*)
Thermodynamics of adsorption and properties of simple fluids on solid surfaces modified by layers of grafted chains. Recent advances from density functional approaches (Keynote lecture)
- 15.30 – 16.00 V. ADAMYAN (*Odesa, Ukraine*)
1D systems embedded into 3D space (Keynote lecture)
- 16.00 – 16.20 J. STAFIEJ (*Warsaw, Poland*)
A toy model simulations for passivation on metallic surfaces based on stochastic cellular automata
- 16.20 – 16.40 N. PAVLENKO (*Lviv, Ukraine*)
Structural relaxation at interfaces of transition metal oxides

Tuesday, 23 June, 2009
SECTION SESSIONS (17.00 – 18.10)

Section 1: **Quantum many-particle systems**
(Lviv Polytechnic National University, room 210)

Chaired by A. DONOSO (Caracas, Venezuela / Nancy, France)

- 17.00 – 17.30 A. SVIDZYNSKYJ (Lutsk, Ukraine)
On two alternative methods in the theory of superconductive contacts (Keynote lecture)
- 17.30 – 17.50 A. PRYKARPATSKY (Drohobych, Ukraine)
The relativistic electrodynamics least action principles revisited: new charged point particle and hadronic string models analysis
- 17.50 – 18:10 V. OHANYAN (Yerevan, Armenia)
Exact solution of the antiferromagnetic sawtooth chain with Ising and Heisenberg bonds

Section 2: **Soft condensed matter**
(Lviv Polytechnic National University, room 217)

Chaired by G. RUOCCO (Roma, Italy)

- 17.00 – 17.30 T. BRYK (Lviv, Ukraine)
Generalized collective modes in binary metallic glasses (Keynote lecture)
- 17.30 – 17.50 M. LUKŠIČ (Ljubljana, Slovenia)
Adsorption of model electrolytes in disordered porous materials. Predictions of the replica integral equation theory
- 17.50 – 18:10 A. KOBRYN (Edmonton, Canada)
Molecular theory of hydrodynamic boundary conditions in nanofluidics

Section 3: **Cooperative phenomena and phase transitions**
(Lviv Polytechnic National University, room 225)

Chaired by J. SZNAJD (Wroclaw, Poland)

- 17.00 – 17.30 M. SHPOT (Lviv, Ukraine)
Lifshitz points: recent theoretical progress (Keynote lecture)
- 17.30 – 17.50 J. STREČKA (Košice, Slovak Republic)
Quantum critical point, reentrant phase transitions and weak-universal critical behaviour of the spin-1/2 Ising-Heisenberg model with the pair XXZ Heisenberg interaction and the quartic Ising interaction
- 17.50 – 18:10 M. GORENSTEIN (Kyiv, Ukraine)
New concept of statistical ensembles

Wednesday, 24 June, 2009

PLENARY MEETING
(*Lviv Polytechnic National University, Mateyko Hall*)

Chaired by N. PLAKIDA (*Dubna, Russia*)

- 9.30 – 10.00 F. HIRATA (*Okazaki, Japan*)
Statistical mechanics reached at the point where it can explain elementary processes in life phenomena
- 10.00 – 10.30 W. JANKE (*Leipzig, Germany*)
Football fever: self-affirmation model for goal distributions
- 10.30 – 11.00 S. THURNER (*Vienna, Austria*)
Toward a Hamiltonian evolution dynamics – or why complex dynamical systems crash from time to time
- 11.00 – 11.25 Coffee Break
- Chaired by A. CIACH (*Warsaw, Poland*)
- 11.25 – 11.55 N. PLAKIDA (*Dubna, Russia*)
Dynamic spin susceptibility and superconductivity in cuprates
- 11.55 – 12.25 H.W. DIEHL (*Duisburg, Germany*)
Effective forces due to confined nearly critical fluctuations
- 12.25 – 12.55 M. BONITZ (*Kiel, Germany*)
Quantum kinetic theory of ultrafast relaxation processes
- 12.55 – 13.25 A. BAKAI (*Kharkiv, Ukraine*)
Heterophase states and secondary liquid phase

- 13.25 – 14.45 Lunch
- 14.45 – 16.15 SECTION SESSIONS (see pp. 17–18)
- 16.15 – 16.35 Coffee Break
- 16.35 – 17.45 SECTION SESSIONS (see pp. 19–20)
- 17.45 – 19.00 POSTER SESSION
(even numbers of the list on pp. 26–36)
- Chaired by: YU. KALYUZHNYI (*Lviv, Ukraine*)
B. LEV (*Kyiv, Ukraine*)
V. MOROZOV (*Moscow, Russia*)
H.W. DIEHL (*Duisburg, Germany*)
A. BIANCONI (*Roma, Italy*)
A. OLEMSKOI (*Sumy, Ukraine*)
J. SPALEK (*Kraków, Poland*)
- 19.30 Conference dinner

Wednesday, 24 June, 2009
SECTION SESSIONS (14.45 – 16.15)

Section 1: **Quantum many-particle systems**
(Lviv Polytechnic National University, room 210)

Chaired by N. SHULGA (*Kharkiv, Ukraine*)

- 14.45 – 15.15 M. KUWATA-GONOKAMI (*Tokyo, Japan*)
Cold excitons in a quantum degenerate regime
(Keynote lecture)
- 15.15 – 15.35 D. FIL (*Kharkiv, Ukraine*)
Superfluid state of magnetoexcitons in double layer graphene structures
- 15.35 – 15.55 A. SHVAIKA (*Lviv, Ukraine*)
Raman scattering in the charge-density-wave phase of the spinless Falicov-Kimball model
- 15.55 – 16.15 O. GOLUBEVA (*Dubna, Russia*)
A quantum generalization of equilibrium statistical thermodynamics

Section 2: **Soft condensed matter**
(Lviv Polytechnic National University, room 217)

Chaired by F. HIRATA (*Okazaki, Japan*)

- 14.45 – 15.15 D. DI CAPRIO (*Paris, France*)
Field theory for classical systems. Entropic effects. Application to non homogeneous electrolytes (Keynote lecture)
- 15.15 – 15.35 J. ILNYTSKYI (*Lviv, Ukraine*)
Molecular dynamics simulations of polymer liquid crystals
- 15.35 – 15.55 V. VIKHRENKO (*Minsk, Belarus*)
Modeling of the phase transition kinetics in lattice systems

- 15.55 – 16.15 A. BAUMKETNER (*Lviv, Ukraine / Charlotte, USA*)
Microscopic factors that control β -sheet registry in Amyloid fibrils formed by 11-25 fragment of Amyloid β peptide: Insights from computer simulations

Section 4: **Non-equilibrium and transport phenomena**
(Lviv Polytechnic National University, room 225)

Chaired by M. BONITZ (*Kiel, Germany*)

- 14.45 – 15.15 V. MOROZOV (*Moscow, Russia*)
Photon kinetics in plasmas (Keynote lecture)
- 15.15 – 15.35 A. SOKOLOVSKY (*Dnipropetrovsk, Ukraine*)
Bogolyubov reduced description method in kinetics of quasi-steady-state catalysis
- 15.35 – 15.55 V. IGNATYUK (*Lviv, Ukraine*)
On the description of the quantum surface diffusion: Non-markovian effects vs. jump dynamics
- 15.55 – 16.15 P. DE GREGORIO (*Torino, Italy*)
Memory effects in a non-equilibrium Langevin equation describing effective cooling via feedback currents

Wednesday, 24 June, 2009
SECTION SESSIONS (16.35 – 17.45)

Section 1: **Quantum many-particle systems**
(Lviv Polytechnic National University, room 210)

Chaired by E. PETROV (*Kyiv, Ukraine*)

- 16.35 – 17.05 T. OGAWA (*Osaka, Japan*)
Quantum cooperative phenomena in photoexcited insulators: Exciton Mott transition and electron-hole pair condensation (Keynote lecture)
- 17.05 – 17.25 YA. SHCHUR (*Lviv, Ukraine*)
Lattice dynamical study of phase transitions in TiH_2PO_4 and TlD_2PO_4 crystals
- 17.25 – 17.45 F.P. MANCINI (*Salerno, Italy*)
Magnetic properties of a strongly correlated system on the Bethe lattice

Section 2: **Soft condensed matter**
(Lviv Polytechnic National University, room 217)

Chaired by V. ZAGREBNOV (*Marseille, France*)

- 16.35 – 17.05 YU. SLYUSARENKO (*Kharkiv, Ukraine*)
Microscopic theory of electromagnetic pulses slowing in a Bose condensate of alkali-metal atoms (Keynote lecture)
- 17.05 – 17.25 O. KALUGIN (*Kharkiv, Ukraine*)
Translational and rotational dynamics of methanol molecules in NiCl_2 -methanol solutions: MD simulations vs. quasi-elastic neutron scattering
- 17.25 – 17.45 M. DRUCHOK (*Lviv, Ukraine*)
Modeling of cationic polyelectrolyte solutions in water: influence of the hydrophobic groups on interaction with sodium halides

Section 3: **Cooperative phenomena and phase transitions**
(Lviv Polytechnic National University, room 225)

Chaired by R. FOLK (*Linz, Austria*)

- 16.35 – 17.05 V. SUGAKOV (*Kyiv, Ukraine*)
Self-organization processes at exciton condensation in quantum wells (Keynote lecture)
- 17.05 – 17.25 JAE HWAN LEE (*Seoul, Korea*)
Partition function zeros of two-dimensional lattice homopolymers
- 17.25 – 17.45 M. KOZLOVSKII (*Lviv, Ukraine*)
Critical behavior of 3D Ising-like systems in an external field

Thursday, 25 June, 2009

- 9.30 – 11.10 SECTION SESSIONS (see pp. 22–23)
11.10 – 11.30 Coffee Break
11.30 – 13.40 SECTION SESSIONS (see pp. 24–26)
13.40 – 15.00 Lunch

PLENARY MEETING

(Lviv Polytechnic National University, Mateyko Hall)

Chaired by W. JANKE (Leipzig, Germany)

- 15.00 – 15.30 A. CIACH (Warsaw, Poland)
Mesoscopic theory for soft-matter systems
15.30 – 16.00 M. HOLOVKO (Lviv, Ukraine)
Contact theorems for charge and density profiles of ionic fluids on the charged surface
16.00 – 16.30 J. SZNAJD (Wrocław, Poland)
Thermodynamics, geometrical frustration and quantum fluctuations in coupled spin chains
16.30 – 16.50 Coffee Break
Chaired by N. BOGOLUBOV JR. (Moscow, Russia)
16.50 – 17.20 V. ZAGREBNOV (Marseille, France)
Bose condensation in (random) traps
17.20 – 17.50 H. LÖWEN (Düsseldorf, Germany)
Brownian dynamics of a self-propelled particle on a substrate
17.50 – 18.20 Summary of poster sessions
CONFERENCE CLOSING

Thursday, 25 June, 2009

SECTION SESSIONS (9.30 – 11.10)

Section 1: **Quantum many-particle systems**

(Lviv Polytechnic National University, room 210)

Chaired by I. STASYUK (Lviv, Ukraine)

- 9.30 – 10.00 B. BERCHE (Nancy, France)
Gauge field theory approach to spin transport in semi-conductors (Keynote lecture)
10.00 – 10.30 M. TKACH (Chernivtsi, Ukraine)
The theory of electro-magnetic radiation of electron moving through the resonance-tunnel structure (Keynote lecture)
10.30 – 10.50 I. DUBROVSKII (Kyiv, Ukraine)
Two-dimensional electron gas in magnetic field
10.50 – 11.10 K. FOYEVTSOVA (Frankfurt am Main, Germany)
DFT-based derivation of the microscopic model for the frustrated antiferromagnet Cs₂CuCl₄

Section 2: **Soft condensed matter**

(Lviv Polytechnic National University, room 217)

Chaired by O. PIZIO (Mexico city, Mexico)

- 9.30 – 10.00 V. RUSSIER (Paris, France)
A statistical field theory approach applied to the liquid vapor interface (Keynote lecture)
10.00 – 10.30 E. PETROV (Kyiv, Ukraine)
Kinetics of current formation in nanomolecular devices (Keynote lecture)
10.30 – 10.50 M. HOLOVKO (Lviv, Ukraine)
Fluids confined in random porous media: Some recent progresses

10.50 – 11.10 M. HORSCH (*Paderborn, Germany*)
Steady-state molecular dynamics simulation of vapour to liquid nucleation with McDonald’s daemon

Section 3: **Cooperative phenomena and phase transitions**
(*Lviv Polytechnic National University, room 225*)

Chaired by W. SELKE (*Aachen, Germany*)

9.30 – 10.00 R. KENNA (*Coventry, UK*)
The site-diluted Ising model (Keynote lecture)

10.00 – 10.30 F. IGLOI (*Budapest, Hungary*)
Nonequilibrium entanglement entropy of quantum spin chains (Keynote lecture)

10.30 – 10.50 O. PATSAHAN (*Lviv, Ukraine*)
Gas-liquid critical point in model ionic fluids with charge and size asymmetry

10.50 – 11.10 D. KHARCHENKO (*Sumy, Ukraine*)
Entropy driven mechanism for ordering, phase separation and patterning in binary stochastic systems

Thursday, 25 June, 2009
SECTION SESSIONS (11.30 – 13.40)

Section 1: **Quantum many-particle systems**
(*Lviv Polytechnic National University, room 210*)

Chaired by F. MANCINI (*Salerno, Italy*)

11.30 – 12.00 T. KOPP (*Augsburg, Germany*)
Flux periodicities in loops of nodal superconductors (Keynote lecture)

12.00 – 12.30 I. STASYUK (*Lviv, Ukraine*)
Phase diagrams of Bose-Hubbard model (Keynote lecture)

12.30 – 13.00 R. LEMAŃSKI (*Wrocław, Poland*)
Relationships between electron band filling and type of charge and magnetic order (Keynote lecture)

13.00 – 13.20 YU. VYSOCHANSKII (*Uzhgorod, Ukraine*)
Anharmonicity of Sn₂P₂S₆ ferroelectrics

13.20 – 13.40 O. VELYCHKO (*Lviv, Ukraine*)
Deformational effects in the two-positional lattice gas approach for intercalated systems

Section 2: **Soft condensed matter**
(*Lviv Polytechnic National University, room 217*)

Chaired by V. RUSSIER (*Paris, France*)

11.30 – 12.00 M. NAPIÓRKOWSKI (*Warszawa, Poland*)
Solvation forces in 2D Ising stripes (Keynote lecture)

12.00 – 12.30 N. SHULGA (*Kharkiv, Ukraine*)
The penetration of high energy charged particles through bent crystals (Keynote lecture)

- 12.30 – 13.00 J. SPAŁEK (*Kraków, Poland*)
Superconductivity in an almost localized Fermi liquid of quasiparticles with spin-dependent masses and effective field induced by electron correlations
 (Keynote lecture)
- 13.00 – 13.20 D. FRYDEL (*Tel Aviv, Israel*)
Sound contributions to the short time dynamics of a quasi-1D colloidal suspension
- 13.20 – 13.40 YU. KALYUZHNYI (*Lviv, Ukraine*)
Liquid-gas phase behavior of polydisperse dipolar hard-sphere fluid

Section 3: Cooperative phenomena and phase transitions
 (*Lviv Polytechnic National University, room 225*)

Chaired by R. KENNA (*Coventry, UK*)

- 11.30 – 12.00 W. SELKE (*Aachen, Germany*)
Classical and quantum anisotropic Heisenberg antiferromagnets (Keynote lecture)
- 12.00 – 12.30 Y. KOZITSKY (*Lublin, Poland*)
Phase transitions and quantum stabilization in quantum anharmonic crystals (Keynote lecture)
- 12.30 – 13.00 A. BIANCONI (*Roma, Italy*)
Feshbach resonances and multiband superconductivity near the misfit strain quantum critical point in the 3D phase diagram of high T_c superconductors (Keynote lecture)
- 13.00 – 13.20 M. DUDKA (*Lviv, Ukraine*)
Correlation functions and amplitude ratio for relaxational dynamics with energy conservation
- 13.20 – 13.40 Z. USATENKO (*Lviv, Ukraine*)
A dilute solution of long-flexible polymer chains trapped between two parallel walls: Massive field theory approach

LIST OF POSTERS

1. ANDRUSYK A. (*Lviv, Ukraine*)
Dynamic properties of the Mitsui model with transverse field. Application to the Rochelle salt crystal
2. BANNIKOVA N. (*Dnipropetrovsk, Ukraine*)
Generalized Gross-Pitaevskii equation in kinetics of spatially nonuniform Bose condensate
3. BARAN O. (*Lviv, Ukraine*)
Transverse field effect on thermodynamic properties of the spin-3/2 Blume-Capel model on rectangular lattice
4. BINAS I. (*Lviv, Ukraine*)
Mass-dependence of self-diffusion coefficients in disparate-mass binary fluid mixtures
5. BZOVSKA I. (*Lviv, Ukraine*)
Catalytic CO oxidation reaction: lattice models and kinetic description
6. CHELBAEVSKY Z. (*Dnipropetrovsk, Ukraine*)
Kinetics of Bogolyubov Brownian oscillator model and the fluctuation-dissipation theorem
7. CHEPIZHKO O. (*Odesa, Ukraine*)
On the kinetic and hydrodynamic regimes of the Czirók-Vicsek model
8. CIACH A. (*Warsaw, Poland*)
Simple three-state lattice model for water
9. DEMYANENKO D. (*Kharkiv, Ukraine*)
Equilibrium states and dynamics of magnetics with spin 1
10. DIDUKH L. (*Ternopil, Ukraine*)
New mean field approximation in the theory of strongly correlated systems

11. DINH THANH-CHUNG (*Linz, Austria*)
Ground states of anisotropic antiferromagnets with single ion and cubic anisotropy
12. DONOSO A. (*Caracas, Venezuela / Nancy, France*)
Thermodynamics of small electromagnetic generators, an experimental perspective
13. DUBLENYCH YU. (*Lviv, Ukraine*)
Ground states of lattice gas models on the triangular and honeycomb lattices: devil’s step and quasicrystals
14. DUTKA F. (*Warszawa, Poland*)
Effective Hamiltonian for fluid membranes in the presence of long-ranged forces
15. FRIDMAN YU. (*Simferopol, Ukraine*)
2D non-Heisenberg ferromagnet with complex exchange interactions
16. GALDINA O. (*Dnipropetrovsk, Ukraine*)
The thermodynamic stability of statistical models in the supercritical region
17. GLOSKOVSKAYA N. (*Kyiv, Ukraine*)
Square-well fluids
18. GOLINEY I. (*Kyiv, Ukraine*)
Effect of the thermal vibration on the acceleration of neutral atoms during a surface phase transition
19. GOROSHCHENKO S. (*Kyiv, Ukraine*)
Structural phase transitions in cylindrically confined electronic clusters
20. HERA O. (*Lviv, Ukraine*)
Bose-Hubbard model in bosonic dynamical mean-field theory
21. HLUSHAK S. (*Lviv, Ukraine*)
Phase diagram of Yukawa chain fluid with polydispersity in length

22. HOLOVATCH T. (*Nancy, France / Coventry, UK*)
Network harness: bundles of routes in public transport networks
23. HOLOVKO M. (*Lviv, Ukraine*)
Scaled particle theory for one- and two-dimensional hard sphere fluids confined in random porous media
24. HOWCZAK O. (*Kraków, Poland*)
A simple approach to ferroelectric ferromagnets: the case of BiMnO₃.
25. HUMENYUK Y. (*Lviv, Ukraine*)
Kinetic theory of transport coefficients for dense gaseous mixtures with multistep interaction
26. IGNATYUK V. (*Lviv, Ukraine*)
Some semi-phenomenological approaches to description of microcracks formation in solids
27. KAPIKRANIAN O. (*Lviv, Ukraine*)
Peculiarities of the quasi-long-range ordered phase in a diluted two-dimensional XY model
28. KHARCHENKO D. (*Sumy, Ukraine*)
Properties of phase separation processes in binary stochastic systems with thermal diffusion and ballistic mixing
29. KHARLAMOV G. (*Novosibirsk, Russia*)
The surface tension of small drops
30. KHOMENKO A. (*Sumy, Ukraine*)
Modeling of nanoindentation of α -graphite using registry-dependent interlayer potential
31. KHOVANETS’ G. (*Lviv, Ukraine*)
Diffusion coefficient of macroradicals in polymer matrix
32. KIM SEUNG-YEON (*Chungju, South Korea*)
Estimation of the critical points and the thermal scaling exponents for the square-lattice Ising antiferromagnet in nonzero uniform magnetic fields using its specific heat

33. KIMIAGAR S. (*Tehran, Iran*)
Statistical properties of the ballistic deposition and solid on solid models
34. KIRICHENKO O. (*Kharkiv, Ukraine*)
High-frequency impedance of layered conductors in a quantizing magnetic field
35. KIRICHENKO O. (*Kharkiv, Ukraine*)
Electron transport in strongly anisotropic structures in a magnetic field
36. KITSSENKO L. (*Kharkiv, Ukraine*)
Critical phenomena in systems with a joint multicritical and Lifshitz point
37. KLESHCHONOK A. (*Kyiv, Ukraine*)
Instability of the nematic liquid crystal filled with sphere-like magnetic-impurity particles against formation of the modulated structures
38. KOKAILO V. (*Kyiv, Ukraine*)
Anharmonicity effects in the phonon spectrum of crystals with hexagonal close-packed lattice
39. KONDRAT S. (*Stuttgart, Germany*)
Critical Casimir interaction of ellipsoidal colloids with a planar wall
40. KONDRAT S. (*Stuttgart, Germany*)
On the theory of bulk properties of ionic liquid crystals
41. KOPYLETS V. (*Lviv, Ukraine*)
Density functional theory study of molecular oxygen interaction with the surface of stable binary nanoclusters of platinum and palladium
42. KORYNEVSKII M. (*Lviv, Ukraine / Szczecin, Poland*)
Dipole glass phase in ferro-antiferroelectric mixed systems

43. KORYNEVSKII M. (*Lviv, Ukraine / Szczecin, Poland*)
The EPR results and interpretation of thermodynamic functions behaviour for SASD type crystals
44. KOSTROBIJ P. (*Lviv, Ukraine*)
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