V All–Russian Conference with Foreign Participants
"Free Boundary Problems: Theory, Experiment and Applications"
Biisk, Russia, June 29 - July 4, 2014

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Sunday, June 29

18.00-20.00 **Registration at hotel**

Monday, June 30

7.00 Breakfast at hotel
8.30, 9.15 **Departure of bus from the hotel**

9.00 **Registration**, room 201B

10.00 **Conference opening**, room 401B
      Pukhnachev V.V., Leonov G.V.
10.15 **Chesnokov A.A., Liapidevskii V.Yu.** Stratified Hele-Shaw flow
10.35   **Kovyrkina O.A., Ostapenko V.V.** The modeling of tsunami rolling to a
      slope based on the modified shallow water model
10.55   **Dobrokhotov S.Yu**. Localized asymptotic solutions of 2-D linear run-up
      problem with curvilinear boundary

11.15 COFFEE BREAK, room 403 B

11.40 POSTER SESSION, brief oral presentations (4 min)

13.00 LUNCH

14.00 **Khmelev V.N., Golykh R.N., Shalunov A.V., Nesterov V.A.** Evaluation
      of optimum modes and conditions of ultrasound cavitation influence on
      various liquids
14.20 **Chirkov D.V., Panov L.V., Cherny S.G.** Numerical simulation of hydro-
      acoustic pulsations in hydraulic power plants using 3D cavitation flow model
14.40 **Kozlov V.G., Ivanova A.A**. Vibrational hydromechanics of rotating
      systems
15.10 **Kupershtokh A.L., Medvedev D.A., Gribanov I.I.** LBE method for
      simulation of heat and mass transfer problems with free boundaries between
      phases

15.40 COFFEE BREAK, room 403 B

16.00   **Shmarev S.I.** Localization properties of doubly nonlinear parabolic
      equations with nonstandard growth
16.20 **Lippoth F.,Peletier M.A.,Prokert G**. Moving boundary problems
      describing osmosis: modelling, well-posedness, stability
16.40 **Karabut E.A., Kuzhuget A.A**. Conformal mapping, Pade approximants
      and example of flow with significant deformation of free boundary

17.00 **Shishmarev K.A., Khabakhpashrva T.I., Korobkin A.A.** Investigation of behavior of fixed ice sheet in channel under moving load

17.20 **Dekhtyar R.A., Nakoryakov V.E., Ovchinnikov V.V., Slesareva E.Yu**. Research of changeable flows of rivulets on an inclined surface

17.40 **Kuznetsov V.V** Motion the stream of gas and liquid layer in a microchannel

18.00 **Departure of bus to the hotel and DINNER**

Tuesday, July 1

7.00 Breakfast at hotel
8.00, 8.35 **Departure of bus from the hotel**
9.00 POSTER SESSION, brief oral presentations (4 min)
10.00 **Gusev O.I., Fedotova Z.I., Khakimzyanov G.S**. Nonlinear dispersive shallow water models on a rotating sphere and numerical algorithms
10.20 **Beisel S.A., Rychkov A.D., Chubarov L.B**. Comparative analysis of some algorithms for simulation of tsunami wave run-up on the shore

10.40 COFFEE BREAK, room 403 B

11.00 **Il'ichev A.T**. Dynamics and stability of moving fronts of water evaporation in a porous medium
11.20 **Andreev V.K**. Evolution of the thermocapillarity motion of three liquids in a flat layer
11.40 **Rein T.S.** Numerical simulation of movement of a liquid in the tank at sea transportation of oil
12.00 **Zhitnikov V.P., Muksimova R.R., Zaripov A.A.** The process of free boundary shaping simulation in Hele-Shaw problems
12.20 **Shkadov V.Y., Konon P.N., Zhuk A.V**. Perturbed motion of viscous layer of fluid on inner surface of rotating cylinder
12.40 **Batyaev E.A., Khabakhpasheva T.I**. Impact of elongated ellipsoid on thin liquid layer

13.00 LUNCH

14.00 **Shevchenko D.E**. Dynamics of interface between two viscous fluids in a porous medium
14.20 **Jose Francisco Rodrigues** On a mathematical model for thick fluids
14.40 **Zhukov V.E., Kuznetsov D.V., Moiseev M.I**. Development of instability of evaporation front interface at unsteady heat release
15.00 **Ivantsov A.O., Lyubimova T.P., Lyubimov D.V**. The effect of periodic impact on moving in porous media inclusion
15.20 **Beloglazkin A.N., Shkadov V. Ya.** Modes of nonlinear waves in combined liquid film and gas flow

15.40 COFFEE BREAK, room 403 B

16.00 **Alabuzhev A.A.** Behavior of cylindrical drop in an oscillating electric field
16.20 **Wertgeim I.I**. Properties of localized solutions of equations of Marangoni convection
16.40 **Kryukova O.N., Knyazeva A.G**. Developing a model synthesis of composite materials in the condensed phase, taking into account scale processes occurring together
17.00 **Petrova A.G., Moshkin N.P., Zhirkov A.F.** Influence of rain on the permafrost season thawing.
17.20 **Usanina A.S.** Influence of liquid viscosity on drop spreading dynamics.
17.40 **Borzenko E.I., Frolov O.Y., Shrager G.R**. Influence of viscous dissipation on the flow characteristics when filling the tanks.

18.00 **Departure of bus to the hotel and DINNER**

Wednesday, July 2

7.00 Breakfast at hotel
8.00 Excursion to Gorno-Altaysk town

Thursday, July 3

7.00 Breakfast at hotel
8.00, 8.35 **Departure of bus from the hotel**

9.00 **Voevodin A.F., Goncharova O.N., Rezanova E.V.** Numerical investigation of the heat transfer process in a free layer of a viscous incompressible liquid.
9.20 **Aktershevb S.P., Alekseenko S.V.** Wave flow of a liquid film with phase change.
9.40 **Ponomareva M.A., Kuznetsova E.A., Yakutenok V.A**. Axially symmetric free surface viscous flows modeling using the indirect boundary element method.
10.00 **Desyatnik A.V., Ponomareva M.A., Yakutenok V.A.** Gas entrainment formation during the injected viscous fluid spreading over a horizontal solid wall.
10.20 **Alabuzhev A.A.** Behavior of cylindrical drop in an oscillating electric field.

10.40 COFFEE BREAK, room 403 B

11.00 **Bekezhanova V.B.** Effect of thermocapillary forces on the instability nature of the film flow.
11.20 **Yilmaz O., Korobkin A.A.** Gravity driven flow of two fluids of equal depth.

11.40 **Semenov A.A., Zaitsev D.V., Gatapova E. Ya., Kabov O.A**. Heat transfer and dynamics of the evaporating droplet on a heated surface.

12.00 **Chernyavskiy A.N, Pavlenko A.N.** Simulation of nonstationary heat transfer in falling wavy liquid films.

12.20 **Aktershev S.P., Chinnov E.A.** Three-dimensional wave structures in a heated liquid film.

12.40 **Vozhakov I.S., Tsvelodub O.Ya., Arkhipov D.G.** Application of spectral methods in the problem of wave flow regimes of a thin layer of viscous fluid.

13.00 LUNCH

14.00 **Lavrenteva O.M., Favelukis M., Nir A.** Deformation of slender power-law drops in simple shear flow.

14.20 **Shelukhin V.V.** Viscoplastic micropolar fluids.

14.40 **Birikh R.V. , Pukhnachev V.V , Frolovskaya O.A.** Mixed thermal convection in a horizontal channel under a time-dependent longitudinal temperature gradient.

15.00 **Korobkin A.A.** Deformations of an elastic clamped plate in uniform flow and due to jet impact.

15.20 **Chinnov E.A., Shatskiy E.N., Guzanov V.V., Markovich D.M., Kabov O.A.** Field measurement of thickness and temperature on the surface of nonisothermal liquid film.

15.40 COFFEE BREAK, room 403 B

16.00 **Aitova E.V., Bratsun D.A.** Effect of adsorption kinetics on chemo-Marangoni-driven flow.

16.20   **Afanasyev A.A.** On the riemann problem for supercritical CO_2 injection in an aquifer.

16.40   **Nakoryakov V.E., Elistratov S.L., Misyura S. Ya.** Dissociation of methane hydrate and combustion.

17.00 **Nikulin V.V.** Motion of homogeneous, buoyant heterogeneous turbulent vortex rings.

17.20 **Mizev A.I., Shmyrov A.V.** Thermocapillary convection from a point source in the presence of insoluble surfactant.

17.40 **Proskurin A.V., Sagalakov A.M.** The convective flow stability in rotating pipe.

18.00 BANQUET
22.00 **Departure of bus to the hotel**

Friday, July 4

7.00 Breakfast at hotel
8.00, 8.35 **Departure of bus from the hotel**

9.00 **Sarychev V.D., Granovskiy A.U., Cheremushkina E.V**. New mechanism of nanostructure Formation in development Hydrodynamic instabilities.

9.20 **Shafarevich A.I.** Asymptotic growth of the magnetic field in the nonlinear problem of magnetohydrodynamics with moving jump of the velocity field.

9.40 **Bushueva C.A., Kostarev K.G.** The instability of ferrofluid flat layer placed on a liquid substrate under the action of vertical magnetic field.

10.00 **Mizev A.I., Trofimenko A.I.** Concentration-capillary flow, complicated by the presence of surface-active admixture.

10.20 **Lyubimova T.P., Lyubimov D.V., Ivantsov A.O.** Influence of vibrations on detached bridgman crystal growth.

10.40 COFFEE BREAK, room 403 B

11.00 **Ockendon H., Ockendon J.R.** Splashing and bubble collapse.

11.30 **Ockendon J.R., Ockendon H.** Extreme plasticity.

12.00 **Kozlov N.V., Subbotin S.V.** Waves and vortexes in a rotating spherical shell at free core oscillations.

12.20 **Tsypkin G.G.** Multi-valued solutions of precipitate formation problem.

12.40 **Petrov A.G., Potapov I.I.** Scheme for the calculation of cavitation flow axisymmetric bodies.

13.00 **General discussion. Conference Close.**
14.00 **Departure of bus to the hotel and LANCH**
15.30 **Departure of bus to Teletskoe lake**

POSTER SESSION

June, 30

1. **Akhmerova I.G.** Problems of solvability of some models of two-phase mixture
2. **Batalov V.G., Kostarev K.G., Mizev A.I., Sukhanovsky A.N., Shmyrov A.V.** Surface tension and the adequacy char acteristics modeling of the spray jet fuel.
3. **Burmistrova O.A.** Equilibrium and stability of nonisothermal liquid film in a longitudinal gravitational field.
4. **Bushueva C.A., Minina A.S.** Deformation of ferrofluid droplet on a liquid substrate under the action of magnetic field
5. **Vjatkin A.A., Sabirov R.R**. The influence of inertial waves on the convection of heat-generating fluid in a rotating cavity.
6. **Goman V.A., Kuzikov S.S., Papin A.A., Shishmarev K.A**. Numerical solution of two-dimensional problem of mo tion of water and air in melting snow
7. **Zhuravleva E.N., Pukhnachev V.V**. Numerical study of bifurcations in spiral fluid flow with free boundary
8. **Karabut E.A., Zhuravleva E.N**. Unsteady flows with a zero acceleration on the free boundary
9. **Kozlov N.V., Kozlova A.N., Shuvalova D.A**. Dynamics of im miscible liquids in a rotating horizontal cylinder.
10. **Kuzikov S.S**. Numerical solution of inverse problems of transonic gas dynamics
11. **Leontiev R.Yu**. Iteration methods for constructing of solutions of non-linear equations in

sectorial domains

12. **Magdenko E.P.** Onset of convection in a two-layer fluid system in finite cylinder.

13. **Pivovarov Yu.V**. Calculation of approach of two drops in the Bingham medium

14. **Dyakova V.V., Polezhaev D.A**. Granular medium inside a rotating cylinder partially filled with fluid.

15. **Proskurin A.V., Sagalakov A.M.** A R-function method for the stability analysis of nonparallel flows

16. **Proskurin A.V., Sagalakov A.M**. A wavelet approximation and hydrodynamic stability problem

17. **Sibin A.N., Papin A.A., Kuzikov S.S., Gagarin L.A**. Numerical study of the profile problem a filtration in between permafrost aquifer

18. **Tokareva M.A., Papin A.A**. Filtration of viscous fluid in the poroelastic media

19. **Chepak-Gizbrekht M.V., Knyazeva A.G**. Elastic and viscoelastic stresses in the problem on elements redistribution between coating and substrate

20. **Chinnov E.A**. Thermocapillary-wave effects in heated liquid films at high Reynolds numbers.

<u>July, 1</u>

1. **Borzenko E.I., Frolov O.Y., Shrager G.R.** Influence of viscous dissipation on the flow characteristics when filling the tanks

2. **Goncharova O.N**. Modeling of the three-dimensional flows on the basis of the exact solutions of the classical convection equations

3. **Zakurdaeva A.V., Rezanova E.V**. Numerical investigation of the effects of the boundary thermal regimes on the dynamics of a spherical liquid layer with free boundaries

4. **Korobkin A.A., Kuznetsova V.V., Ostapenko V.V.** Flows caused by vertical exit of a rectangle from shallow water

5. **Konon P.N., Zhuk A.V**. Bifurcations of equilibrium states of liquid layer inside rotating cylinder.

6. **Krat Y.G., Potapov I.I.** Influence of physical and mechanical parameters and granulometric bed particle on development length bed wave

7. **Parshakova Ya.N., Ivantsov A.O**. Modeling of stratified flows in the riverbed processes associated with the production of non-metallic materials.

8. **Ponomareva M.A., Filina M.P., Yakutenok V.A**. The indirect boundary element method for the plane gravity driven free surface Stokes flow of a non-Newtonian fluid

9. **Petrov A.G., Potapov I.I., Pchelintseva A.S**. Influence of the shape on the bottom dune hydraulic flow resistance

10. **Potapov I.I., Snigur K.S**. Microconvection appearance in a flat layer with a free boundary.

11. **Khabakhpasheva T.I**. Pressure distribution during impact on thin liquid layer

12. **Tsvelodub O.Yu**. Effects of external actions on the wave regimes of flowing down viscous liquid film

13. **Chernysheva A.Y., Khabakhpasheva T.I**. Impact of wedge with small deadrise angle on thin layer of the water