

EUROMECH Colloquium 581 – List of announced presentations

1. DYNAMICS OF TWO-PHASE FLOW IN THE VORTEX CHAMBER WITH THE LOWER FACE SWIRLER

Abrakhmanov R. Kh., Dvornikov N.A., Lukashov V.V.
Kutateladze Institute of Thermophysics, SB RAS, Novosibirsk, Russia

2. ON PHENOMENON OF VORTEX RECONNECTION IN A CONICAL SWIRL FLOW

S. Alekseenko, P. Kuibin, S. Shtork, S. Skripkin and M. Tsoi
Kutateladze Institute of Thermophysics, Novosibirsk, Russia

3. EXPERIMENTAL STUDY OF TWO-PHASE GAS-LIQUID SWIRLING FLOW

S.V. Alekseenko^{1,2}, S.I. Shtork^{1,2}, R.R. Yusupov^{1,2}
¹ Institute of Thermophysics SB RAS, Novosibirsk, Russia
² Novosibirsk State University, Novosibirsk, Russia

4. VORTEX STRUCTURES AT THE OUTFLOW OF A BOILING WATER JET

M.V. Alekseev¹, I.S. Vozhakov^{1,2}, S.I. Lezhnin^{1,2}, N.A. Pribaturin¹, and A.L. Sorokin¹
¹ Kutateladze Institute of Thermophysics SB RAS, Novosibirsk, Ak. Lavrenteva 1, 630090, Russia
² Novosibirsk State University, Novosibirsk, Pirogova 2, 630090, Russia

5. RECONNECTIONS OF QUANTIZED VORTICES AT FINITE TEMPERATURES

V. Andryushchenko, L. Kondaurova and S. Nemirovskii
Kutateladze Institute of Thermophysics, SB RAS, Novosibirsk, Russia

6. EXPERIMENTAL INVESTIGATION OF A FLOW STRUCTURE IN A VORTEX FURNACE

I. Anufriev, E. Shadrin and O. Sharypov
Kutateladze Institute of Thermophysics SB RAS, Novosibirsk, Russia

7. ON MODELING OF THE LOFOTEN VORTEX STRUCTURE IN THE NORWEGIAN SEA

T. Belonenko¹, I. Bashmachnikov^{2,1}, A. Koldunov¹ and P. Kuibin³
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² NIERSC- Nansen International Environmental and Remote Sensing Centre, St. Petersburg, Russia;
³ Kutateladze Institute of Thermophysics, SB RAS, Novosibirsk, Russia

8. QUANTIZED VORTICES IN CONDENSATES: FROM SUPERFLUID HELIUM TO POLARITON CONDENSATES

N.G. Berloff
Skolkovo Institute of Science and Technology Novaya St., Skolkovo, Russia and Department of Applied Mathematics and Theoretical Physics, University of Cambridge, Cambridge, United Kingdom

9. NONLINEAR CORE DYNAMICS OF SLENDER VORTEX IN VISCOUS FLOW WITH AXIAL PRESSURE GRADIENT

A. Borissov
Thermophysics Technologies, Inc., 14315 Marina Bay Lane, Sugar Land, Texas, USA

10. NUMERICAL SIMULATION OF VORTEX ROPE IN TURBINE DRAFT TUBE

S.G. Cherny¹, A.E. Lyutov², D.V. Chirkov¹, V.A. Skorospelov³, P.A. Turuk³

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³ Sobolev Institute of Mathematics SB RAS, Novosibirsk, Russia

11. TORSION AND BENDING FORKS AS GENERATOR OF QUANTUM VORTEXES IN SUPERFLUID HELIUM

V. Efimov^{1,2} and O. Kolosov²

¹ Institute of Solid State Physics RAS, Chernogolovka, Moscow distr, Russia

² Physics depart., Lancaster University, Lancaster, UK

12. APPLICATION OF ACOUSTICS PROBES FOR CHARACTERIZATION OF HELICAL INSTABILITIES IN ISOTHERMAL AND REACTING SWIRLING FLOWS

E.C. Fernandes¹, I.V. Litvinov^{2,3}, A.S. Mitryakov^{2,3}, S.I. Shtork^{2,3}

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13. VORTEX CASCADES IN SHEAR FLOWS

S. Fortova

Institute for Computer-Aided Design RAS, Moscow, Russia

14. KAWADA'S CONTRIBUTION TO INDUCED VELOCITY BY HELICAL VORTICES WITH ITS APPLICATION TO PROPELLER THEORY

Yasuhide Fukumoto¹, Valery Okulov², David Wood³

¹ Kyushu University, Japan

² Technical University of Denmark, Denmark

³ University of Calgary, Canada

15. FURTHER ADVANCES IN UNDERSTANDING 'THE STRUCTURE OF INHOMOGENEOUS TURBULENT FLOWS'

William K. George

Department of Aeronautics

Imperial College of London

16. VORTEX FLOWS DESCRIBED BY EXACT SOLUTIONS OF MAGNETOHYDRODYNAMIC EQUATIONS

S.V. Golovin

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17. DYNAMICS OF PVC IN SWIRLING FLOWS WITH HEAT RELEASE

A. Gorbunova^{1,2}, N. Molevich^{1,2}, D. Porfiriev^{1,2}, S. Sugak¹ and I. Zavershinskii¹

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18. FORMATION OF PLASMA LOOP IN SWIRLING FLOW

A. Gorbunova^{1,2}, N. Molevich^{1,2}, S. Sugak¹ and I. Zavershinskii¹

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19. KELVIN WAVE LEAPFROGGING ON SUPERFLUID VORTICES

N. Hietala¹, R. Hänninen¹, H. Salman² and C. F. Barenghi³

¹ Low Temperature Laboratory, Department of Applied Physics, Aalto University, Finland

² School of Mathematics, University of East Anglia, Norwich Research Park, UK

³ Joint Quantum Centre Durham-Newcastle, School of Mathematics and Statistics, Newcastle University, UK

20. EXPERIMENTAL STUDY OF WAVE PACKETS NEAR THE FRONTS OF LOCALIZED DISTURBANCES - STREAKS AT STRAIGHT AND SWEEP WING BOUNDARY LAYER FLOW

M.M. Katasonov¹, V.V. Kozlov^{1,2}

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² Novosibirsk State University, Novosibirsk, Russia.

21. DECAY OF QUANTUM TURBULENCE AT LOW AND ULTRALOW TEMPERATURES

Luiza Kondaurova,^{1,2} Victor L'vov,¹ Sergey Nemirovskii², Anna Pomyalov,¹ Itamar Procaccia¹

¹ Department of Chemical Physics, The Weizmann Institute of Science, Rehovot 76100, Israel

² Kutateladze Institute of Thermophysics, SB RAS, Novosibirsk, Russia

22. VISUALIZATION OF CONVENTIONAL AND COMBUSTING SUBSONIC JET INSTABILITIES

Victor V. Kozlov^{1,2}, Genrich R.Grek¹, Yury A. Litvinenko¹

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23. ON APPLICATION OF ANALYTICAL VORTEX MODELS TO MODELING OF PROCESSES IN HYDROTURBINES

P. Kuibin

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24. WAVY INTERFACE AND DROPLET BEHAVIORS OF ANNULAR TWO-PHASE FLOW IN ROD-BUNDLE GEOMETRY WITH SPACER

T. Kunugi¹

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25. CHARACTERISATION OF COMBUSTION OF ENERGETIC POROUS SILICON

V. A. Kuznetsov^{1,3}, A. Plummer^{2,3}, J. Gascooke^{2,3}, J. Shapter^{2,3}, and N. H. Voelcker⁴

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⁴Future Industries Institute, University of South Australia, Australia

26. EXPERIMENTS ON VORTEX INTERACTIONS AND INSTABILITIES

Thomas Leweke

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27. TRAILING VORTEX COUPLE AS THE SOLE MEASURE OF AERODYNAMIC FORCES IN 3D, STEADY, VISCOUS AND COMPRESSIBLE EXTERNAL FLOW

L. Q. Liu and J. Z. Wu

Peking University, Haidian District, Beijing 100871, P. R. China

28. MUTUAL FRICTION IN SUPERFLUID $^3\text{He-B}$ IN THE ZERO-TEMPERATURE LIMIT

J. T. Makinen¹, V. B. Eltsov¹ and M. Silaev²

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29. PRIMARY AND SECONDARY VORTICES IN JET FLOWS. DIAGNOSTICS BY 2D AND 3D PIV

D.M. Markovich, M.V. Shestakov, M.P. Tokarev, V.M. Dulin

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30. MEASUREMENTS AND STRUCTURAL INTERPRETATION OF VORTEX FLOWS LOCAL PARAMETERS

V. Meledin, V. Glavnyy, D. Kulikov, N. Pribaturin

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31. RECONSTRUCTION OF 3D FLOW STRUCTURES IN A CYLINDRICAL CAVITY WITH A ROTATING LID

Knud Erik Meyer

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32. ROTOR INDUCED VORTEX BREAKDOWN

R. Mikkelsen¹, J.N. Sørensen¹, S. Sarmarst² & D. Henningson²

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33. HELICAL WAVE AS A BUILDING BLOCK OF A ROUND TURBULENT JET

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34. THE PLUNGING COMPONENTS WITH LOW FREQUENCIES IN SWIRLING FLOWS WITH HELICAL VORTEX

S. Muntean¹, D.C. Moş², C. Tănaşă², A.I. Bosioc² and R. Susan-Resiga²

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35. INFLUENCE OF THE CONTAINER GEOMETRY ON VORTEX BREAKDOWN IN CONFINED VORTEX FLOWS

Igor V. Naumov, I. Podolskaya, M. Tsoy

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36. MODELING OF CLASSICAL TURBULENCE BY QUANTIZED VORTICES IN SUPERFLUIDS

Sergey. K. Nemirovskii

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37. TURBULENT HOMOGENEOUS AND BUOYANCY HETEROGENEOUS VORTEX RINGS

V.V. Nikulin

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38. AN ACENTRIC ROTATION OF HELICAL VORTEX PAIR

Valery L. Okulov

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39. THE EFFECT OF SWIRL ON PARTICLES DISTRIBUTIONS AND HEAT TRANSFER IN A NON-ISOTHERMAL TWO-PHASE CONFINED TURBULENT FLOW

M.A. Pakhomov and V.I. Terekhov

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40. COMPUTATIONAL AND EXPERIMENTAL RESEARCH SWIRL FLOWS IN THE HYDRO TURBINE ON THE AERODYNAMIC STAND

D. Platonov^{1,2}, A. Minakov^{1,2} and D. Dekterev^{1,2}

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41. VORTEX KNOTS CASCADE BY HOMFLYPT POLYNOMIAL

Renzo L. Ricca

Department of Mathematics & Applications, U. Milano-Bicocca, ITALY

42. CHAOTIC MOTION OF A POINT VORTEX ALONG A BOUNDARY WITH A CIRCULAR CAVITY

E. A. Ryzhov, K. V. Koshel

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43. REGULAR AND CHAOTIC DYNAMICS WITH TWO POINT VORTICES IN A TWO-LAYER DEFORMATION FLOW

E. Ryzhov¹, K. Koshel¹ and D. Ovcharenko²

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44. NUMERICAL INVESTIGATION OF PRESSURE PULSATIIONS INDUCED BY VORTEX CORE PRECESSION IN DRAFT TUBE OF HYDRAULIC TURBINE

A. Sentyabov^{1,2}, A. Gavrilov^{1,2}, A. Dekterev^{1,2} and A. Minakov^{1,2}

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45. MECHANISMS OF EDDY FORMATION IN SWIRLING FLOWS

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46. MODIFICATION OF BUOYANCY-DRIVEN COLUMNAR VORTICES BY GROUND-PLANE VORTICITY MANIPULATION

M. W. Simpson and A. Glezer

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47. RECONNECTION IN MHD AND HYDRODYNAMICAL TURBULENCE

Son E.E.

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48. THE DYNAMICS OF VORTICES IN THE NEAR WAKE OF WIND TURBINES

Jens N. Sørensen

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49. THE INVESTIGATION OF THE LOCALIZED ROUGHNESS INFLUENCE ON THE LAMINAR-TURBULENT TRANSITION ON THE SWEEPED WING IN THE FAVORABLE PRESSURE GRADIENT REGION

S. Tolkachev, V. Kozlov and V. Kaprilevskaya

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50. THE ROLE OF TWO-DIMENSIONAL ROUGHNESS ELEMENT IN LAMINAR-TURBULENT TRANSITION IN THE FAVORABLE PRESSURE GRADIENT REGION OF THE SWEEPED WING

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51. DYNAMICS OF SCALAR ADMIXTURE, VORTICITY, AND MAGNETIC FIELD IN OSCILLATING FLOWS

V.A. Vladimirov

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University of Cambridge and University of York, UK

52. INSTABILITIES AND NONLINEARITIES IN THE FLOW BEHIND A ROTATING SPHERE

J.E. Wesfreid, M. Skarysz, K. Gibiński and S. Goujon-Durand

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53. APPLICATION OF HELICAL VORTEX SOLUTIONS TO DETERMINE WIND TURBINE TIP LOSS

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54. NUMERICAL-EXPERIMENTAL STUDY OF WAYS OF AN INTENSIFICATION OF HYDRODYNAMIC PROCESSES IN THE REACTOR HYDROMETALLURGICAL PRODUCTION

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