Valery G. Chernoray
CURRICULUM VITAE

16 February 2009

Date of birth:	July 8, 1975
Sex:	Male
Present Post:	Associate Professor, Div. of Fluid Dynamics, Dept. of Applied Mechanics Chalmers University of Technology
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ACADEMIC DEGREES

5 September 2008, Docent in Fluid Dynamics, Division of Fluid Dynamics, Department of Applied Mechanics, Chalmers University of Technology

21 June 2002, Doctor of Science in Physics-Mathematics, Division of Fluid Mechanics, Institute of Theoretical and Applied Mechanics of Russian Academy of Sciences
Thesis title: Experimental investigation of the origin and development of disturbances on straight and swept wings with unfavourable pressure gradient
Advisor: Professor G.R. Grek

26 June 1999, Master of Engineering and Technology in Mechanical (Aircraft and Missile) Engineering, Novosibirsk State Technical University, Novosibirsk, Russia
Thesis title: Modelling of streaky structures in two- and three-dimensional boundary layers
Advisor: Professor G.R. Grek

28 June 1997, Bachelor of Engineering and Technology in Mechanical (Aircraft and Missile) Engineering, Novosibirsk State Technical University, Novosibirsk, Russia
Thesis project: Experimental study of process of incipient spot generation
Advisor: Professor G.R. Grek

EDUCATIONAL BACKGROUND

Undergraduate
1992 – 1997
Novosibirsk State Technical University, Novosibirsk, Russia

Graduate
1997 – 1999
Novosibirsk State Technical University, Novosibirsk, Russia
1999 – 2002
Division of Fluid Mechanics, Institute of Theoretical and Applied Mechanics of Russian Academy of Sciences

Continuing Education Courses

1. Mathematical methods of flow stability analysis by O. Levin, February 2001, one-day course organized by the Swedish Energy Agency.
2. Public appearance, oration and voice in teaching situations (Framträdande, tal och röst i undervisningssituationen), October – December 2001, course for teachers at Chalmers University.
3. Supervision of Research A: Principles, Models and Issues, March – April 2004, course for teachers and supervisors at Chalmers University.
4. Introduction to particle image velocimetry by O. Törnblom April 3-4, 2004, course organized by the Swedish Energy Agency.
5. Introduction into computations using Fluent level 2 by Fluent Inc. December 6-8, 2005.
6. Lattice-Boltzmann computations (8 seminars) by Alexei Heintz. April-June, 2007.

Scientific Projects, Scholarships and Fellowships

01/2008-06/2009

Vinnova/NFFP research project 'Loaded Guide Vane'

01/2008-12/2008

Research project Financed by Volvo Aero. 'Study of non-conformance effect on the aerodynamics of the outlet guide vanes'

10/2000-12/2005
PhD programme scholarship, Swedish Energy Agency (Energimyndigheten), Energy related fluid mechanics
Project: 'Dynamical processes for mass and heat transfer in wall-bounded shear flows – mechanisms, modelling and control'

01/2005-06/2005
Research grant from the Royal Swedish Academy of Sciences
Project: 'Control of the breakdown of near wall streaks using riblets'

07/2003-12/2003
Research grant from the Royal Swedish Academy of Sciences
Project: 'Experimental investigation of the instability and breakdown of near-wall streaks on the airfoil'

07/2002-06/2003
Research grant from the Royal Swedish Academy of Sciences
Project: 'Experimental development and investigation of methods of flow control on the airfoil'

10/2000-10/2002
PhD programme scholarship, TFR (The Swedish Research Council)
Project: 'MEMS Sensors and Actuators for Use in Turbulent Flows'

03/2001 - 07/2002
PhD programme fellowship for young scientists, INTAS (International Association for the Promotion of Co-operation with Scientists from the New Independent States of the Former Soviet Union)
Project: 'Transformation to turbulence of localized streamwise disturbances in boundary layers and their control'

01/2000-02/2000
Scientific exchange scholarship, The Royal Swedish Academy of Sciences
Project: 'Implementation of Micro-Electro-Mechanical Systems (MEMS) Technology for Aero-Physical Wind Tunnel Experiments'

PROFESSIONAL EXPERIENCE

1. Associate Professor, Applied Mechanics (Division of Fluid Dynamics), Chalmers University of Technology, Gothenburg, Sweden, 2007 –

2. Assistant Professor, Applied Mechanics (Vehicle Safety), Chalmers University of Technology, Gothenburg, Sweden, 2005 –2007.
3. Assistant Professor, Thermo and Fluid Dynamics, Chalmers University of Technology, Gothenburg, Sweden, 2002 – 2004.
4. Guest PhD Student, Department of Thermo and Fluid Dynamics, Chalmers University of Technology, Gothenburg, Sweden, 2000 – 2002.
5. Research Scientist, Institute of Theoretical and Applied Mechanics Novosibirsk, Russia, 1999 – 2000.
6. Research Assistant to Professor G.R. Grek, Institute of Theoretical and Applied Mechanics, Novosibirsk, Russia, 1992 – 1999.

Courses Taught

1. Laminar and Turbulent Boundary layers, course for teaching assistants at Chalmers University of Technology, fall 2002.
2. Hot-Wire Anemometry and Data Acquisition, one-day course for participants in the project of Swedish Energy Agency, Gothenburg, Sweden, Sept. 2002.
3. Laminar and Turbulent Boundary layers, course for teaching assistants at Chalmers University of Technology, fall 2003.
4. Flow Stability and Transition, at Chalmers University of Technology, fall 2003.
5. Assistant in Advanced Course in Fluid Mechanics, M4/F4, (Strömningsmekanik fk.1), at Chalmers University of Technology, fall 2004.
6. Flow Stability and Transition, at Chalmers University of Technology, fall 2004.
7. Fluid Mechanics for Technical Design, MTF245, (Strömningsmekanik, TD), at Chalmers University of Technology, spring 2005.
8. Leading assistant in Advanced Course in Fluid Mechanics, M4/F4, (Strömningsmekanik fk.1), at Chalmers University of Technology, fall 2005.
9. Fluid Mechanics for Technical Design, MTF245, (Strömningsmekanik, TD), at Chalmers University of Technology, spring 2006. Included FLUENT FlowLab exercises.
10. Construction methods, CAD exercises of SSY045 and SSY050, Course based on Pro/Enginner 2.0 CAD software package, at Chalmers University of Technology, spring 2006.
11. Construction methods, CAD exercises, Course based on Pro/Enginner 2.0 CAD software package, at Chalmers University of Technology, fall 2006.
12. Construction methods, CAD exercises, Course based on Pro/Enginner 2.0 CAD software package, at Chalmers University of Technology, fall 2007.
13. Laminar and Turbulent Boundary layers, course for teaching assistants at Chalmers University of Technology, fall 2007.
14. System Construction, Z3, SSY046, Exercises based on Pro/Enginner 2.0 CAD software package, at Chalmers University of Technology, fall 2008.

Master's Theses Supervised

1. On the excitation of perturbations by a localized vibrator in the boundary layer of straight and swept wing, A. Spiridonov, 2000 (Co-supervisor with Prof. V.V. Kozlov).
2. An experimental investigation of periodic disturbances in boundary layer flows, P. Pratt, 2000 (Co-supervisor with Prof. L. Löfdahl).
3. An investigation into the three different types of streak formation present on the surface of a swept wing, A. Cook, 2001 (Co-supervisor with Prof. L. Löfdahl).
4. Wake Measurements on a Road Vehicle Model (ASMO), M. Fernandez Visiedo, L. Bello de Aranaga, 2001 (Co-supervisor with Prof. L. Löfdahl).
5. Measurements of forces and velocity distribution on car model on the rolling road: C. Harris, C. Fortich, 2001 (Co-supervisor with Prof. L. Löfdahl).
6. Streamwise structures in a plane wall-jet, M.V. Litvinenko, 2002 (Co-supervisor with Prof. V.V. Kozlov).
7. Calculations of laminar swept wing boundary layer mean flows, U. Wallin, 2002 (Co-supervisor with Prof. L. Löfdahl).

8. Measurement of the fluctuating wall shear stress in a turbulent boundary layer, G. Mitchell, 2002 (Co-supervisor with Prof. L. Löfdahl).
9. Breakdown of Near-Wall Streaks in Straight Wing Boundary Layers, H.G. Chang, 2003 (Co-supervisor with Prof. L. Löfdahl).
10. Time-resolved measurements of the fluctuating wall shear stress using MEMS. A. Gibson, 2003 (Co-supervisor with Prof. L. Löfdahl).
11. A reconstruction of an arbitrary velocity field using the inverse Radon transform. F. Karlsson, 2004 (Co-supervisor with Prof. L. Löfdahl and Prof. J. Bergh).
12. Improvement of cross-wind stability of the buses. B. Pazura, 2005 (Co-supervisor with Prof. L. Löfdahl).
13. Secondary Flow Measurement of an Outlet Guide Vane Cascade at Low and High Inlet Turbulence Intensities. S. Kennedy, 2006 (Co-supervisor with Prof. L. Löfdahl & J. Hjärne).
14. Effect of Geometry Deviations on the Aerodynamic Performance of an Outlet Guide Vane. R. Ramos Alonso, 2009.

Graduate Dissertations Supervised

1. On the Formation and Role of the Longitudinal Structures during the Laminar Breakdown Process in Jets, M.V. Litvinenko, Licentiate thesis, 2003 (Co-supervisor with Prof. L. Löfdahl).
2. An investigation of streak breakdown and control in boundary layers of straight and swept wings, Yu.A. Litvinenko, Licentiate thesis, 2005 (Co-supervisor with Prof. L. Löfdahl).
3. Turbine Outlet Guide Vane Flows, J. Hjärne, PhD thesis, 2007 (Assistance to Prof. L. Löfdahl, and Dr. J. Larsson).

Industrial Collaborations

1. Wake Measurements on a Road Vehicle Model. Project in cooperation with Volvo Cars.
2. Turbulent length scale and dissipation measurements in a linear cascade. Measurements for Demag Delaval Industrial Turbomachinery AB.
3. Optimisation of surface microstructure of textile belts for paper machine clothing. Project with Albany International AB.
4. Optimization of air-intakes for city buses. Work for Volvo Buses (May-Nov 2005).
5. Aerodynamic comfort optimization of a SAAB cabriolet. Work for SAAB Automobile AB (May-June 2007).
6. Measurement of the turbulent length scales in the LPT/OGV facility. Work for Volvo Aero Corporation (September-October 2007).
7. Turbulence measurements in a heat transfer rig. Measurements for SIT Finspång.
8. Vinnova/NFFP project with Volvo Aero.
9. Volvo Aero Project on study of non-conformance effect on the aerodynamics of the outlet guide vanes.

Other Collaborative Activities

Expert-collaborator in ISTC project 'Development of Metallization Technology of Ceramic Products from Beryllium Oxide by Method of Magnetron Spraying in Vacuum with the Subsequent Photolithography of Pattern Topology' by KazNU, Almaty, Kazakhstan.

HONOURS

Top National Prize in Science (State Prize of Russian Federation) given for outstanding work in science, August 16, 2004.

Membership in Scientific Societies

American Society of Mechanical Engineers (ASME), Member
European Society of Mechanics (EUROMECH), Member

LANGUAGE PROFICIENCY

Russian – Native
English – Fluent
Swedish – Fluent

PUBLICATIONS

The authors are given in the order of their contribution starting with the one mainly responsible first.

Refereed journal publications

A.1. Experimental study of mechanism of high-frequency breakdown of Λ-structure (1999) GREK, G.R., KATASONOV, M.M., KOZLOV, V.V., CHERNORAI, V.G. *Thermophys. Aeromech.* **6** (4), 427–442, MAIK Nauka/Interperiodica Publishing »

A.2. Experimental study of a Λ-structure development and its transformation into the turbulent spot (2000) GREK, G.R., KOZLOV, V.V., KATASONOV, M.M., CHERNORAI, V.G. *Curr. Sci.* **79** (6), 781–789, Current Sci. Assoc »

A.3. Generation of the localized disturbances by the vibrating surface (2000) CHERNORAI, V.G., GREK, G.R., KATASONOV, M.M., KOZLOV V.V. *Thermophys. Aeromech.* **7** (3), 329–339, MAIK Nauka/Interperiodica Publishing »

A.4. Experimental study of the K-regime of breakdown in straight and swept wing boundary layers (2001) CHERNORAY, V.G., BAKCHINOV, A.A., KOZLOV, V.V., LÖFDAHL, L. *Phys. Fluids* **13** (7), 2129–2132, American Institute of Physics Inc. »

A.5. Generation of perturbations by a localized vibrator in the boundary layer of a nonswept wing (2001) CHERNORAI, V., SPIRIDONOV, A., KATASONOV, M., KOZLOV, V. *J. Appl. Mech. Tech. Phys.* **42** (5), 765–772, Kluwer Academic/Consultants Bureau »

A.6. Role of localized streamwise structures in the process of transition to turbulence in boundary layers and jets (review) (2002) KOZLOV, V.V., GREK, G.R., CHERNORAI, V.G., LITVINENKO, M.V. *J. Appl. Mech. Tech. Phys.* **43** (2), 224–236, Kluwer Academic/Consultants Bureau »

A.7. Characteristics of a hot wire microsensor for time-dependent wall shear stress measurements (2003) CHERNORAY, V., HAASL, S., STEMME, G., SEN, M., LÖFDAHL, L., *Exp. Fluids* **35** (3), 240–251, Springer-Verlag »

A.8. A multi-sensor hot-wire anemometer system for investigation of wall-bounded flow structures (2003) JØRGENSEN, F.E., CHERNORAY, V.G., BAKCHINOV, A.A., *Exp. Therm. Fluid Sci.* **27** (2), 207–214, Elsevier Science Inc. »

A.9. Control of spanwise flow instability of a swept wing by suction (2003) LITVINENKO, YU.A., KOZLOV, V.V., CHERNORAY, V.G., GREK, G.R., *Thermophys. Aeromech.* **10** (4), 541–548, MAIK Nauka/Interperiodica Publishing »

A.10. Experimental investigation of a streaky structure varicose instability in a swept wing boundary layer (2004) LITVINENKO, YU.A., GREK, G.R., KOZLOV, V.V., CHERNORAI, V.G. *Thermophys. Aeromech.* **11** (1), 13–22, MAIK Nauka/Interperiodica Publishing »

A.11. Nonlinear sinusoidal and varicose instability in the boundary layer (review) (2004) LITVINENKO, YU.A., CHERNORAI, V.G., KOZLOV, V.V., GREK, G.R., CHUN, H. *Thermophys. Aeromech.* **11** (3), 329–354, MAIK Nauka/Interperiodica Publishing »

A.12. Experiments on secondary instability of streamwise vortices in a swept wing boundary layer (2005) CHERNORAY, V.G., DOVGAL, A.V., KOZLOV, V.V., *J. Fluid Mech.* **534**, 295–325, Cambridge University Press »

A.13. A study of the Blasius wall jet (2005) LEVIN, O., CHERNORAY, V.G., HENNINGSON, D.S. *J. Fluid Mech.* **539**, 313–347, Cambridge University Press »

A.14. Hybrid-mounted micromachined aluminum hotwires for wall shear-stress measurements (2005) HAASL, S., MUCHA, D., CHERNORAY, V., EBEFORS, T., ENOKSSON, P., LÖFDAHL, L.,

STEMME, G. *J. Microelectromech. Syst.* **14** (2), 254–260, Institute of Electrical and Electronics Engineers Inc. »

A.15. Adverse pressure gradient effect on nonlinear varicose instability of a streaky structure in an unswept wing boundary layer (2005) LITVINENKO, YU.A., CHERNORAY, V.G., KOZLOV, V.V., GREK, G.R., CHUN, H.H. *Phys. Fluids* **17**, 1–3, American Institute of Physics Inc., Paper no 118106 »

A.16. Nonlinear sinusoidal and varicose instability in a boundary layer (2005) LITVINENKO, YU.A., CHERNORAI, V.G., KOZLOV, V.V., GREK, G.R., CHUN, H.H. *Dokl. Phys.* **50** (3), 147–150, MAIK Nauka/Interperiodica Publishing »

A.17. Riblet-assisted control of transformation of the Λ-structure into a turbulent spot (2005) CHERNORAI, V.G., LITVINENKO, YU.A., KOZLOV, V.V., GREK, G.R., CHUN, H.H. *Thermophys. Aeromech.* **12** (4), 539–548, MAIK Nauka/Interperiodica Publishing »

A.18. The influence of riblets on the development of a Λ structure and its transformation into a turbulent spot (2006) LITVINENKO, YU.A., CHERNORAY, V.G., KOZLOV, V.V., GREK, G.R., CHUN, H. *Dokl. Phys.* **51** (3), 144–147, MAIK Nauka/Interperiodica Publishing »

A.19. Hydrodynamic instability of boundary layers and separated flows (present state) (2005) GREK, G.R., KOZLOV, V.V., CHERNORAY, V.G. *Adv. Mech. (Uspehi Mehaniki)* **3** (4), 3–40, In Russian »

A.20. Effect of riblets on nonlinear disturbances in the boundary layer (2006) CHERNORAI, V.G., KOZLOV, V.V., GREK, G.R., CHUN H.H. *Thermophys. Aeromech.* **13** (1), 67–74, MAIK Nauka/Interperiodica Publishing »

A.21. Hot wire visualization of breakdown to turbulence in complex flows (2006) CHERNORAY, V.G., KOZLOV, V.V., PRATT, P.R. *Thermophys. Aeromech.* **13** (2), 213–220, MAIK Nauka/Interperiodica Publishing

A.22. Visualization of sinusoidal and varicose instabilities of streaks in a boundary layer (2006) CHERNORAY, V.G., KOZLOV, V.V., L., CHUN, H.H. *J. Vis.* **9** (4), 437-444, Ohmsha Ltd, IOS Press and Visualization Soc. of Japan »

A.23. Influence of an unfavourable pressure gradient on the breakdown of boundary layer streaks (2007) CHERNORAY, V.G., KOZLOV, V.V., LEE, I., CHUN, H.H. *J. Vis.* **10** (2), 217–225, Visualization Soc. of Japan »

A.24. Longitudinal structures in the near field of the plane wall-jet (2007) CHERNORAY, V.G., LITVINENKO, M.V., LITVINENKO, YU.A., KOZLOV, V.V., CHEREDNICHENKO, E.E. *Thermophys. Aeromech.* **14** (4), 545–553, MAIK Nauka/Interperiodica Publishing

A.25. Study of the nonlinear instability of a longitudinal structure generated by a roughness element in the boundary layer of a straight wing (2007) CHERNORAY, V.G., LITVINENKO, YU.A., KOZLOV, V.V., GREK, G.R. *Thermophys. Aeromech.* **14** (3), 343–358, MAIK Nauka/Interperiodica Publishing

Refereed conference and symposium papers

C.1. Multiwire system for hot-wire measurements in boundary layers (2001) BAKCHINOV, A.A., CHERNORAY, V.G., JØRGENSEN, F.E., *ASME 6th Int. Thermal Anemometry Symp., Melbourne, Australia*, 1–10 (ed. Turan, Ö.F.), Paper no S285-3-IP3 »

C.2. Hybrid mounted micromachined aluminium hot-wire for near-wall turbulence measurements (2002) HAASL, S., MUCHA, D., CHERNORAY, V., EBEFORS, T., ENOKSSON, P., LÖFDAHL, L., STEMME, G. *15th IEEE Int. Micro Electro Mechanical Systems Conference, Las Vegas, Nevada, USA*, 336–339, Institute of Electrical and Electronics Engineers Inc. »

C.3. Experimental analysis of the flow-field in a state-of-the-art linear cascade with boundary-layer suction (2005) HJÄRNE, J., CHERNORAY, V., LARSSON, J., *Proc. of ASME TURBO EXPO 2005, Reno, Nevada, USA*, 1–8, American Society of Mechanical Engineers, Paper no GT2005-68399 »

C.4. An experimental investigation of secondary flows and loss development downstream of a highly loaded low pressure turbine outlet guide vane cascade (2006) HJÄRNE, J., CHERNORAY, V., LARSSON, J., *Proc. of ASME TURBO EXPO 2006, Barcelona, Spain*, 1–10, American Society of Mechanical Engineers, Paper no GT2006-90561 »

C.5. Numerical validations of secondary flows and loss development downstream of a highly loaded low pressure turbine outlet guide vane cascade (2007) HJÄRNE, J., LARSSON, J., CHERNORAY V., *Proc. of ASME TURBO EXPO 2007, Montreal, Canada*, 1–11, American Society of Mechanical Engineers, Paper no GT2007-27712.

C.6. Experimental investigations and numerical validation of an outlet guide vane with an engine mount recess (2008) HJÄRNE, J., LARSSON, J., CHERNORAY V. *Proc. of ASME TURBO EXPO 2008, Berlin, Germany*, 1–10, American Society of Mechanical Engineers, Paper no GT2008-50168 »

C.7. Improving the accuracy of multihole probe measurements in velocity gradients (2008) CHERNORAY V., HJÄRNE, J. *Proc. of ASME TURBO EXPO 2008, Berlin, Germany*, 1–10, American Society of Mechanical Engineers, Paper no GT2008-50492 »

Conference and symposium papers

C.8. An experimental study on the incipient spot and turbulent spot origination (1997) BAKCHINOV, A.A., GREK, G.R., KATASONOV, M.M., KOZLOV, V.V., CHERNORAY, V.G. *In Proc. of the Third Int. Conf. on Experimental Fluid Mechanics, Korolev, Moscow region, Russia*, 45

C.9. Study of the development of a lambda-structure and its transformation into a turbulent spot (2000) KOZLOV, V.V., GREK, G.R., KATASONOV, M.M., CHERNORAY, V.G. *In Proc. IUTAM Symp. Laminar-Turbulent Transition, Sedona, Arizona, 1999*, 173–180 (ed. Fasel, H.F. and Saric W.S.), Springer

C.10. Experimental modelling of longitudinal (puff) structures in boundary layers (1999) CHERNORAY, V.G. *In Proc. Int. Symp. On Actual Problems of Physical Hydro-aerodynamics, Novosibirsk, Russia* **2**, 33–34

C.11. Experimental study of the K-regime of breakdown in straight and swept wing boundary layers (2000) BAKCHINOV, A.A., CHERNORAY, V.G., KOZLOV, V.V., LÖFDAHL, L. *Abstracts of 53rd Ann. Meeting of the Div. of Fluid Dyn. APS, Washington, DC*, Abstract no BF-001 »

C.12. Study of the development of a lambda-structure and its transformation into a turbulent spot (2001) KOZLOV, V., GREK, G., KATASONOV, M., CHERNORAY, V. *In Mechanics for a New Millennium, Proc. 20th Int. Congress of Theoret. and Applied Mech., 2000, Chicago, USA*, 114 (ed. Aref, H and Phillips, J.W.), Springer

C.13. On K-type transition in swept wing boundary layer in the presence of an acoustic field (2000) CHERNORAY, V.G., BAKCHINOV, A.A., KOZLOV, V.V., *In Proc. of the 7th Int. Conf. on Stability of Homogeneous and Heterogeneous Flows, Novosibirsk, Russia*, 141–144 (ed. Rudyak, V.Ya.) »

C.14. Experimental study of K-regime of breakdown in straight and swept wing boundary layers (2000) CHERNORAY, V.G., BAKCHINOV, A.A., KOZLOV, V.V., *In Proc. Int. Conf. on Methods of Aerophys. Research, Novosibirsk, Russia* **2**, 65–70 »

C.15. A quantitative flow visualization of a point source disturbance in a swept wing boundary layer (2001) PRATT, P., CHERNORAY, V.G., BAKCHINOV, A.A., *Abstracts of Euromech colloquium 423, Stuttgart, Germany*, 56–57 »

C.16. Longitudinal structures in boundary layers and jets (2001) KOZLOV, V.V., BAKCHINOV, A., CHERNORAY, V.G. *In Proc. of the 8th Int. Conf. on Stability of Homogeneous and Heterogeneous Flows, Novosibirsk, Russia*, 84

C.17. The role of streamwise structures in the near-field entrainment of plane jet (2001) CHERNORAY, V., BAKCHINOV, A., KOZLOV, V.V., *Euromech and Ercoftac colloquium 426, Bergen-Tromsø, Norway*, 9–10 »

C.18. Role of the streaky structures in a transition mechanism of the boundary layers and jets (2002) LITVINENKO, M.V., CHERNORAI, V.G., KOZLOV, V.V., GREK, G.R., *In Proc. Int. Conf. on Methods of Aerophys. Research, Novosibirsk, Russia*, 133–138 »

C.19. An experimental study of longitudinal structures in the near field of a plane wall-jet (2002) KOZLOV, V.V., CHERNORAY, V.G., LITVINENKO, M.V., *Abstr. of the IV International Conference on Non-equilibrium Processes in Nozzles and Jets, Saint-Petersburg, Russia*, 32–33

C.20. Measurement of the turbulence intensities in a flat plate boundary layer (2003) MITCHELL, G., CHERNORAY, V., HAASL, S., STEMME, G. *Proc. of Turbulence, Heat and Mass Transfer, 4th Int. Symp., Antalya, Turkey* , 261–268 »

C.21. A visualization study of the longitudinal structures of a plane wall-jet (2003) LITVINENKO, M.V., CHERNORAY, V.G., KOZLOV, V.V. *Proc. of The 7th Asian symposium on visualization, Singapore*, 1–6, Paper no Conf.24-A149 »

C.22. A numerical and experimental study of the Blasius wall jet (2003) LEVIN, O., LITVINENKO, M., CHERNORAY, V., HENNINGSON, D. *Abstracts of 56th Ann. Meeting of the Div. of Fluid Dyn. APS, East Rutherford, New Jersey*, Abstract no KM-003 »

C.23. Control of cross-flow instability on a swept wing by suction (2003) LITVINENKO, YU.A., KOZLOV, V.V., CHERNORAY, V.G., *Abstr. of The 5th EUROMECH Fluid Mechanics Conference, Toulouse, France*, 409

C.24. Time-resolved wall shear stress measurements using MEMS (2004) GIBSON, A.N., CHERNORAY, V.G., HAASL, S., STEMME G. *In Proc. of XXI International Congress of Theoretical and Applied Mechanics, Warsaw, Poland*, 1–2, Paper no FM10-11455 »

C.25. Secondary instability of stationary vortex packets in a swept wing boundary layer (2004) CHERNORAY, V.G., DOVGAL, A.V., KOZLOV, V.V., *In Proc. of XXI International Congress of Theoretical and Applied Mechanics, Warsaw, Poland*, 1–2, Paper no FM2-11339 »

C.26. Breakdown of a streak via development of varicose secondary mode on the straight wing with pressure gradient (2004) KOZLOV, V.V., CHERNORAY, V.G., LITVINENKO, YU.A., *Adv. in Turbulence X, Proc. of the Tenth European Turbulence Conference, Trondheim, Norway*, 1–2 (ed. H. I. Andersson and P.-Å. Krogstad), CIMNE, Barcelona, Paper no 261 W »

C.27. Breakdown of a streak via development of varicose secondary mode on the straight wing with pressure gradient (2004) KOZLOV, V.V., CHERNORAY, V.G., LITVINENKO, YU.A., *In Proc. Int. Conf. on Methods of Aerophys. Research, Novosibirsk, Russia* **2**, 107–110 »

C.28. Hot wire visualizations of breakdown to turbulence in complex flows (2005) CHERNORAY, V.G., KOZLOV, V.V., PRATT, P.R., *Proc. of EUCASS conf., Moscow, Russia*, 211–216 »

C.29. Review of visualization techniques in exploration of incompressible shear flows (2005) KOZLOV, V.V., LITVINENKO, YU.A., CHERNORAY, V.G., GREK, G.R., CHUN, H. *Proc. of The 8th Asian symposium on visualization*

C.30. Nonlinear sinusoidal and varicose instability in the boundary layer (review) (2005) KOZLOV, V.V., LITVINENKO, YU.A., GREK., G.R., CHERNORAY V.G. *Proc. Of APM 2005 Conf., St. Petersburg (Repino), Russia*

C.31. Breakdown of a streak via development of varicose secondary mode on the straight wing with pressure gradient (2006) KOZLOV, V.V., CHERNORAY, V.G., LITVINENKO, YU.A., *In Laminar-Turbulent Transition. Proc. of Sixth IUTAM Symposium, Bangalore, India 2004*, 419–424 (ed. Govindarajan R.), Springer »

C.32. Experiments on streamwise vortices in a swept wing boundary layer and their secondary instability (2006) KOZLOV, V.V., CHERNORAY, V.G., DOVGAL, A.V., *In Laminar-Turbulent Transition. Proc. of Sixth IUTAM Symposium, Bangalore, India 2004*, 415–418 (ed. Govindarajan R.), Springer »

C.33. Features of laminar-turbulent transition of adverse pressure gradient flows at low and high Reynolds numbers (2006) CHERNORAY, V.G., KOZLOV, V.V., GREK, G.R. *Proc. of the 6th Euromech Fluid Mechanics Conference, 2006, Stockholm, Sweden*, 82, KTH »

C.34. Secondary flow measurement of an outlet guide vane cascade at low and high inlet turbulence intensities (2006) KENNEDY, S., CHERNORAY, V., HJÄRNE, J. *Proc. of the 6th Euromech Fluid Mechanics Conference, 2006, Stockholm, Sweden*, 38, KTH »

C.35. On nonlinear sinusoidal and varicose instabilities in a boundary layer and their control by riblets (2006) KOZLOV, V.V, CHERNORAY. V. G., GREK, G. R., CHUN, H. H. *Proc. of the Wither Turbulence Prediction and Control Conf., 2006, Seoul, Korea,* 1–2, SNU

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