

NATO ARW on
TUBES, SHEETS and SINGULARITIES in FLUID DYNAMICS
 Sponsored as an *IUTAM Symposium* by the
 International Union of Theoretical and Applied Mechanics
 2-7 September 2001, Zakopane, Poland

Akhmetev	Dr. Peter M.	IZMIRAN, Moscow	RUSSIA	A high-order analog of the helicity number for a pair of divergent-free vector field
Bajer	Dr Konrad	Warsaw University, Inst. Geophysics	POLAND	Mixing and diffusion in planar vortices (with A. P. Bassom and A. D. Gilbert)
Barenghi	Prof. Carlo F.	University of Newcastle	U.K.	Complexity measures of tangled vortex filaments (with D. C. Samuels and R. L. Ricca)
Bayly	Prof. Bruce J.	U. Arizona, Tucson	USA	Asymptotic structure of fast dynamo eigenfunctions
Bhattacharjee	Prof. Amitava	University of Iowa	USA	PAPER 1: Sufficient condition for finite-time singularity in a highly symmetric Euler flow (with C. S. Ng) PAPER 2: Current singularities in two and three-dimensional MHD (with Z. W. Ma, C. S. Ng and X. Wang)
Brun	Dr. Cedric	Universidad Politecnica de Madrid	SPAIN	Detection of vortical structures in inertial and dissipation ranges (with J. Jiménez)
Cichocki	Prof. Bogdan	Warsaw University, Physics	POLAND	Effective boundary condition for creeping flow (with P. Szymczak and F. Feuillebois)
Constantin	Prof. Peter	U. Chicago	USA	Near identity transformations for the Navier-Stokes equations
Cowley	Prof. Steve C.	Imperial College, London	U.K.	Singularity formation in MHD
Cowley	Dr. Stephen J.	DAMTP, Cambridge	U.K.	An exponentially small massacre of BLT and DNS
Ekiel-Jezewska	Dr. Maria	IPPT PAN, Warsaw	POLAND	Interactions between two close spheres in Stokes flow (with N. Lecoq, R. Anthore, F. Bostel and F. Feuillebois)
Farge	Dr. Marie	Ecole Normale Supérieure	FRANCE	Wavelet approach to study tubes, sheets and singularities in turbulent flows (with K. Schneider)
Frisch	Dr. Uriel	Observatoire de Nice	FRANCE	Singularities and the distribution of density in the Burgers/adhesion model
Fukumoto	Prof. Yasuhide	Kyushu University	JAPAN	Stability of vortex ring revisited (with Y. Hattori)
Gibbon	Prof. John D.	Imperial College, London	U.K.	A study of singularity formation in a class of solutions of the Euler & ideal MHD equations
Gomez	Dr. Thomas	LMM, U. Pierre et Marie Curie, Paris	FRANCE	Spiral small-scale structures in compressible turbulent flows (with M. Larcheveque, H. Politano and A. Pouquet)
Gourji	Dr. Alexandre A.	Inst. Hydromechanics NAS, Kiev	UKRAINE	Intensive and weak mixing in the chaotic region of velocity field
Higgins	Mr. Keith	University of Melbourne	AUSTRALIA	Merging of non-symmetric Burgers vortices (with M. S. Chong and A. Ooi)

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Hornig	Dr. Gunnar	Ruhr-Universitaet Bohum, Physics	GERMANY	Reconnection in magnetic and vorticity fields
Jimenez	Prof. Javier	School of Aeronautics, Madrid	SPAIN	Coherent dynamics in near-wall turbulence
Kida	Prof. Shigeo	NIFS, Nagoya	JAPAN	Life, structure, and dynamical role of vortical motion in turbulence
Krasny	Prof. Robert	U. Michigan	USA	Vortex sheet roll-up: chaos and ring merger (with K. Lindsay and M. Nitsche)
Kuilbin	Dr. Pavel A.	Inst. Thermophysics RAS, Novosibirsk	RUSSIA	On motion of a double helical vortex in a cylindrical tube
Kuznetsov	Prof. Evgenii A.	Landau Institute, Moscow	RUSSIA	Collapse of vortex lines in hydrodynamics and its sequences
Le Dizes	Dr. Stephane	IRPHE, Marseille	FRANCE	Optimal two-dimensional perturbations in a stretched shear layer
Leonard	Prof. Anthony	CALTECH	USA	Interaction of localized packets of vorticity with turbulence
Lipniacki	Dr. Tomasz	IPPT PAN, Warsaw	POLAND	Evolution of the anisotropy of the quantum vortex tangle
Malyuga	Dr. Vladimir S.	Inst. of Hydromechanics, Kiev	UKRAINE	Steady Stokes flow in a trihedral corner (with A. M. Gomiiko)
Mayer	Mr. Christoph	Ruhr Universitaet Bohum	GERMANY	Higher order topological invariants (with G. Hornig)
Moffatt	Prof. Keith FRS	Isaac Newton Intitute, Cambridge	U.K.	A model for magnetic reconnection (with R. Hunt)
Muravnik	Dr. Andrey	Moscow State Aviation Institute	RUSSIA	On Cauchy problem for quasi-linear singular parabolic equations with singular potentials
Nakaki	Prof. Tatsuyuki	Kyushu University	JAPAN	Corotating five point vortices in a plane
Nordlund	Dr. Aake	Astron. Obs., Copenhagen	DENMARK	The structure of dissipating and quiescent magnetic fields (with K. Galsgaard)
Okulov	Prof. Valery L.	Inst. Thermophysics RAS, Novosibirsk	RUSSIA	L-transition from right- to left-handed helical vortices (with J. N. Sorensen and L. K. Voigt)
Pankrashkin	Dr. Konstantin V.	IPM RAN, Moscow	RUSSIA	On Maslov conjecture about the structure of weak point vortical singularities of the shallow water equations (with S. Yu. Dobrokhov and E. S. Semenov)
Pelz	Prof. Richard B.	Rutgers University	USA	Point collapse in octahedral, vortical flows
Peradzynski	Prof. Zbigniew	Warsaw University, Appl. Maths.	POLAND	On helicity conservation laws
Priest	Prof. Eric R.	U. St Andrews	U.K.	Current sheets in the Sun's corona
Pullin	Prof. Dale I.	CALTECH	USA	Vortex tubes, spirals and large-eddy simulation
Ricca	Dr. Renzo L.	University College, London	U.K.	Energy, helicity and crossing number relations for complex flows

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Rossi	Dr. Maurice	LMM Universit'e de Paris VI	FRANCE	Effect of stretching on vortices with axial flow: a three-dimensional stability study (with I. Delbende and S. Le Dizès)
Ruban	Dr. Victor P.	Landau Institute, Moscow	RUSSIA	Finite time singularities in a class of hydrodynamic models (with D. I. Podolsky and J. J. Rasmussen)
Schneider	Prof. Kai	Universite de Provence, Marseille	FRANCE	Extraction and analysis of coherent vortex tubes in turbulent mixing layers (with M. Farge)
Sliwa	Mr. Cezary	CFT PAN, Warsaw	POLAND	Motion of vortex lines in the hydrodynamic formulation of quantum mechanics
Verga	Prof. Alberto D.	IRPHE, Marseille	FRANCE	Stability of vortex sheet roll-up (with M. Abid)
Xie	Dr. Xi-Lin	Fudan University, Shanghai	CHINA	Helical structure in axisymmetric shear layer flows (with W. W. Mar and H. L. Zhou)
Zabusky	Prof. Norman J.	Rutgers University	USA	Vortex layers and 'projectiles' in accelerated inhomogeneous (Richtmayer-Meshkov and Rayleigh-Taylor) flows: Emerging 2D and 3D structures in shocked/interface, curtail-&-bubble interactions
Zheigovsky	Dr. Vladislav	Moscow State University	RUSSIA	An example of development of singularity in a solution to the force-free Euler equation (with O. Podvigina)