

## CONTENTS

ALEYAN O. A.: On the preconditioning of the matrices in the Stokes problem	p.1
ANTOŠ P., KNOB M.: Modifikace teoretického řešení teplotního profilu drátku termoanemometrické sondy <i>Modification of the theoretical solution of the hot-wire probe temperature distribution</i>	p.5
BENKHALDOUN F., SAHMIM S.: A finite volume solver based on matrix sign for non homogeneous systems	p.9
BIRKEN PH, MEISTER A.: Analysis of finite volume schemes in the low Mach number regime	p.13
BODNÁR T., SEQUEIRA A.: Numerical simulation of blood flow around a clot in straight vessel	p.17
BURDA P., NOVOTNÝ J., ŠÍSTEK J.: A priori and a posteriori estimates in the finite element method for Navier-Stokes equations and applications	p.21
DEURING P.: Eigenvalue bounds for a preconditioned system arising from finite element discretizations of the stationary Navier-Stokes system	p.25
DOBEŠ J., DECONINCK H.: Extension of linear second order residual distribution schemes for computations on moving meshes	p.27
DOBEŠ J., FORT J., HALAMA J.: Numerical solution of transonic flow in turbine cascades	p.31
DVOŘÁK R.: Scaling down turbomachinery elements and similarity	p.35
DVOŘÁK V., FRIDRICH J.: Experimental and numerical verification of analytical method of computation of constant area mixing	p.39
FEISTAUER M., KUČERA V.: On some aspects of the DGFEM for compressible flow	p.43
FIALKA M., CHARVÁTOVÁ H.: On a model of pulsating flow	p.47
FRAŇA K., STILLER J., UNGER J., GRUNDMANN R.: Numerical study of turbulence models in the flow driven by a rotating magnetic field	p.51
FURMÁNEK P., FÜRST J., HORÁČEK J., KOZEL K.: Numerical Solution of some problems of external and internal aerodynamics	p.55
FÜRST J.: The implicit WLSQR scheme for unsteady flows	p.59
GULÍKOVÁ E., BODNÁR T., PÍŠA V.: Improvement of numerical models for solution of dust air pollution	p.63
HOLMAN J., FÜRST J.: Comparison of flux splitting schemes for compressible viscous flows	p.67
HRUBÝ J.: Application of the gradient theory of phase interfaces to modeling of nano-droplets	p.71
HYHLÍK T.: Numerické řešení rovinného syntetizovaného proudu <i>Numerical solution of the plane synthetic jet flow</i>	p.75

JONÁŠ P., MAZUR O., URUBA V.: Comment on the analysis of measurements downstream a step expansion in a channel with rectangular cross section	p.77
KOPECKÝ V., KOTEK M.: Laserové anemometry: teorie a současná praxe <i>Laser anemometers: theory and actual practice</i>	p.81
KORDÍK J., ŠAFAŘÍK P., VÍT T., TRÁVNÍČEK Z.: Analýza syntetizovaného proudu v ústí jeho generátoru <i>Analysis of the synthetic jet at the actuator output</i>	p.85
KRAČMAR S., NEČASOVÁ Š., PENEL P.: $L^q$ approach of weak solutions of the Oseen flow around a rotating body	p.89
KRAČMAR S., NEČASOVÁ Š., PENEL P.: $L^2$ estimates of weak solutions in weighted Sobolev spaces to the Oseen-type equations for a rotating body	p.93
KUČERA P.: Remark on initial conditions for the Navier-Stokes equation	p.97
LUXA M.: Centripetální proudění za radiální turbínovou mříží <i>Centripetal flow downstream of the radial turbine cascade</i>	p.99
NAMLEYEVA YU., NEČASOVÁ Š.: Homogenization of the steady Navier-Stokes equations in domains with a fine-grain boundary	p.103
NERINCK K., VIERENDEELS J., DICK E.: A Mach-uniform algorithm: coupled and segregated solution methods	p.107
NEUSTUPA J. PENEL P.: The role of boundary conditions in the theory of the Navier-Stokes equation	p.109
NEUSTUPA J., PENEL P.: The generalized impermeability boundary conditions and regular solutions of the Navier-Stokes equations	p.113
NEUSTUPA T.: The flow through a profile cascade with a mixed boundary condition involving Bernoulli's pressure	p.117
PAŘÍLKOVÁ J., ŠULC J., VESELÝ J., ZACHOVAL Z.: Physical modeling in water management	p.121
PAŘÍLKOVÁ J., ZACHOVAL Z.: Two indirect electrical methods of dike monitoring and their results	p.125
PROSI M.: Computer simulation of local pharmacokinetic of drug-eluting stents	p.129
PUNČOCHÁŘOVÁ P., KOZEL K., FÜRST J., HORÁČEK J.: Numerical solution of unsteady viscous compressible flows in a channel	p.133
RICCHIUTO M., ABGRALL R.: Stable and convergent RD schemes for steady and time dependent conservation laws	p.137
SEQUEIRA A.: Mathematical and numerical modelling in blood rheology	p.141
SKALÁK Z.: Survey of some recent results on the asymptotic dynamics of weak solutions of the homogeneous Navier-Stokes equations	p.145
SLÁDEK A.: Proudění v zakřiveném difuzoru s vnitřní válcovou stěnou <i>Flow in a curved diffuser with cylindrical inner wall</i>	p.147

SLÁDEK I., BENEŠ L., BODNÁR T., KOZEL K.: A numerical study of atmospheric flow over a shelter-belt including pollution dispersion	p.151
SOUČKOVÁ N., POPELKA L., MATĚJKA M.: Experimentální a numerické vyšetřování proudění na leteckých profilech s prostředky pro zvýšení vztlaku a odporu <i>Experimental investigation and numerical analyses of flow on airfoils with high lift devices and spoilers</i>	p.155
STRAŠKRABA I.: Mathematical models of hydraulic systems, examples, analysis	p.159
ŠIMURDA D., ŠAFAŘÍK P., HYHLÍK T.: Vortex structures in blade cascades	p.163
TAJČ L., JŮZA Z., RUDAS B., VALENTA R.: Numerická studie ztrát v přímé lopatkové mříži <i>Numerical study of losses in straight blade cascade</i>	p.167
TESAŘ V.: Fluidics applied to flow control by synthetic jets	p.171
URUBA V.: Boundary layer control strategies	p.175
VALLS-TOMAS A., GARCIA-ESPINOSA J.: A new free surface capturing finite element methods for analysis of ship hydrodynamics	p.179
ZUNIGA-GONZALES I., MARŠÍK F.: Mass and heat transfer modelling in cooling towers	p.183
ŽALOUDEK M., FORT J.: A study of alternative numerical approximations of boundary conditions for transonic flow	p.187
LIST OF PARTICIPANTS	p.191