

数理解析研究所講究録 1536

流体と気体の数学解析

京都大学数理解析研究所

2007年2月



*RIMS Kôkyûroku 1536*

*Mathematical Analysis in Fluid and Gas Dynamics*

*February, 2007*

*Research Institute for Mathematical Sciences*

*Kyoto University, Kyoto, Japan*



流体と気体の数学解析  
Mathematical Analysis in Fluid and Gas Dynamics  
RIMS 研究集会報告集

2006年7月5日～7月7日

研究代表者 隠居 良行 (Yoshiyuki Kagei)  
副代表者 西畠 伸也 (Shinya Nishibata)

目 次

1. On the Oseen semigroup with rotating effect	1
早大・理工	柴田 良弘(Yoshihiro Shibata)
2. Numerical analysis of quantum turbulence	19
大阪市大・理学	坪田 誠(Makoto Tsubota)
3. Asymptotic behavior and classical limit of the solutions to quantum hydrodynamic model for semiconductors	37
東工大・情報理工学	鈴木 政尋(Masahiro Suzuki)
〃	西畠 伸也(Shinya Nishibata)
4. The Navier-Stokes Equation with Slip Boundary Conditions	46
Czech Academy of Sciences	Jiří Neustupa
Univ. du Sud-Toulon-Var	Patrick Penel
5. $L_p$ - $L_q$ maximal regularity of the interface problem for the Stokes system in a bounded domain	58
静岡大・工	清水 扇丈(Senjo Shimizu)
6. HODGE DECOMPOSITION OF $L^r$ -VECTOR FIELDS ON A BOUNDED DOMAIN AND ITS APPLICATION TO THE NAVIER STOKES EQUATIONS	73
奈良女子大・理	柳澤 卓(Taku Yanagisawa)
7. Some computer assisted proofs on the bifurcation structure of solutions for the Rayleigh-Bénard problem	87
九大・情報基盤センター	渡部 善隆(Yoshitaka Watanabe)
8. Half-space problem of the Boltzmann equation: weak evaporation and condensation in two component system	97
京大・工学	高田 滋(Shigeru Takata)
9. Structure of invariant dynamical systems embedded in the N-vortex motion on sphere with pole vortices	109
北大・理学	坂上 貴之(Takashi Sakajo)

1 0 . Large-time behavior of solutions for the compressible viscous fluid in a half space	-- 122
九大・数理学	中村 徹(Tohru Nakamura)
東工大・情報理工学	西畠 伸也(Shinya Nishibata)
"	弓削 健(Takeshi Yuge)
1 1 . One Dimensional Viscous Conservation Laws with Discontinuous Initial Data	----- 132
West Virginia Univ.	服部 晴海(Harumi Hattori)
1 2 . SMOOTH SHOCK PROFILES FOR HYPERBOLIC SYSTEMS OF BALANCE LAWS	----- 140
Tsinghua Univ.	Wen-An Yong
1 3 . Large time behavior of solutions to a semilinear hyperbolic system with relaxation	----- 151
九大・数理学	上田 好寛(Yoshihiro Ueda)
"	川島 秀一(Shuichi Kawashima)
1 4 . Scattering problem for nonlinear Klein-Gordon equations	----- 172
阪大・理学	林 仲夫(Nakao Hayashi)