

数理解析研究所講究録 1830

流体と気体の数学解析

京都大学数理解析研究所

2013年4月

*RIMS Kôkyûroku 1830*

*Mathematical Analysis in Fluid and Gas Dynamics*

*July 4~6, 2012*

*edited by Tatsuo Iguchi*

*April, 2013*

*Research Institute for Mathematical Sciences*

*Kyoto University, Kyoto, Japan*

This is a report of research done at the Research Institute for Mathematical Sciences, Kyoto University. The papers contained herein are in final form and will not be submitted for publication elsewhere.

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

2012年7月4日～7月6日

研究代表者 井口 達雄 (Tatsuo Iguchi)

副代表者 隠居 良行 (Yoshiyuki Kagei)

目 次

1. ON THE INVISCID LIMIT PROBLEM FOR VISCOUS INCOMPRESSIBLE FLOWS IN THE HALF PLANE -----	1
神戸大・理学 (Kobe U.)	前川 泰則 (Yasunori Maekawa)
2. Asymptotic stability for a geophysical system -----	16
東大・数理科学 (U. Tokyo)	古場 一 (Hajime Koba)
3. GLOBAL SOLUTIONS FOR THE ROTATING NAVIER-STOKES EQUATIONS ---	34
中央大・理工 (Chuo U.)	岩渕 司 (Tsukasa Iwabuchi)
京大・理学 (Kyoto U.)	高田 了 (Ryo Takada)
4. KELVIN-HELMHOLTZ INSTABILITIES AND INTERFACIAL WAVES -----	42
ENS Paris	David Lannes
5. 平面境界上の希薄気体における特異な振舞い -----	56
京大・工学 (Kyoto U.)	高田 滋 (Shigeru Takata)
6. Initial boundary value problem for model equations of resistive drift wave turbulence with Stepanov-almost-periodic initial data -----	64
慶應大・理工 (Keio U.)	近藤 信太郎 (Shintaro Kondo)
7. On asymptotic behavior of solutions to the compressible Navier-Stokes equation around a time-periodic parallel flow -----	76
九大・数理学 (Kyushu U.)	Jan Březina
8. Global Classical and Weak Solutions to the Three-Dimensional Full Compressible Navier-Stokes System with Vacuum and Large Oscillations -----	98
Chinese Acad. Sci.	Xiangdi Huang
AMSS / Chinese Acad. Sci.	Jing Li

9. 圧縮性粘性流体の熱対流問題 -----	119
京大・情報学 (Kyoto U.)	西田 孝明 (Takaaki Nishida)
	M. Padula
摂南大・工 (Setsunan U.)	寺本 恵昭 (Yoshiaki Teramoto)
1 0. Mathematical justification of the penalty method for viscous incompressible fluid flows -----	127
富山大・人間発達科学 (U. Toyama)	山口 範和 (Norikazu Yamaguchi)
1 1. Initial-Boundary Value Problems for a Motion of a Vortex Filament with Axial Flow -----	143
慶應大・理工 (Keio U.)	相木 雅次 (Masashi Aiki)
"	井口 達雄 (Tatsuo Iguchi)
1 2. Convergence rates towards traveling waves for a model system of radiating gas -----	163
早大・非線形PDE研 (Waseda U.)	大縄 将史 (Masashi Ohnawa)
1 3. Isentropic Gas Flow in a Laval Nozzle - Physical Phenomena of Steady Flow and Time Global Existence of Solutions - ---	171
岐阜大・教育 (Gifu U.)	柘植 直樹 (Naoki Tsuge)