Preface

This volume collects research papers, announcements and survey articles contributed to the Proceedings of the RIMS Conference “Regularity and Singularity for Partial Differential Equations with Conservation Laws” held at the Research Institute for Mathematical Sciences, Kyoto University from June 3 (Wednesday) through June 5 (Friday) in 2015. The conference was planned for communications among researchers studying various related fields to differential equations. To make this proceeding more valuable, we decided to approve submissions by not only speakers but also participants if the themes of submitted papers are connected with the aims and topics of the conference.

This volume consists of eleven papers. Nine of them are the contributions of the speakers. The rest two, the second and third papers, are the articles submitted by participants.

All papers in the volume have been reviewed and are in their final forms. As the reviewing policy, the articles of the speakers are basically concerned by their lectures, and the ones given by other participants should be original research papers. The referees have taken much time for giving constructive opinions for the judgement to the publications. We deeply appreciate their efforts. We would also like to express our thanks to all participants, speakers, authors and the RIMS secretaries for their helps in all stages of the conference, preparing, holding and publishing.

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We believe that this volume has a new mathematical information and invites a new development on the field of the conference.

January, 2017

Keiichi Kato
Mishio Kawashita, Chief
Masashi Misawa
Takayoshi Ogawa
Program

Regularity and Singularity for Partial Differential Equations with Conservation Laws

June 3, Wednesday

14:00–15:00 Joe Kamimoto (Kyushu University)
   "Asymptotic analysis of oscillatory integrals and local zeta functions"

15:15–15:45 Tomonari Watanabe (Hiroshima University)
   "Strichartz type estimates for the damped wave equation and their applications"

16:00–17:00 Yutaka Kamimura (Tokyo University of Marine Science and Technology)
   "An inverse blow-up problem"

June 4, Thursday

10:00–11:00 Chengbo Wang (Zhejiang University)
   "The Strauss conjecture on Kerr black hole backgrounds"

11:10–12:10 Yuichi Shiozawa (Okayama University)
   "Quantification of global properties of symmetric Markov semigroups"

13:30–14:30 Norihisa Ikoma (Kanazawa University)
   "Embedded Willmore type tori in Riemannian 3-manifolds with small area"

14:50–15:50 Ken-Ichi Aoki (Kanazawa University)
   "Weak solution of the renormalization group equation giving physically correct vacuum for theories with dynamical chiral symmetry breaking"

16:00–17:00 Eiji Yanagida (Tokyo Institute of Technology)
   "Behavior of localized solutions of the Fujita equation in the intermediate range"

June 5, Friday

10:00–11:00 Hideshi Yamane (Kwansei Gakuin University)
   "Asymptotic analysis based on the inverse scattering method"

11:10–12:10 Yoshihito Kohsaka (Kobe University)
   "On the criteria for the stability of unduloids"

13:30–14:00 Noboru Chikami (Tohoku University)
   "On the well-posedness of the full compressible Navier-Stokes system in critical Besov spaces"

14:10–14:40 Yuusuke Sugiyama (Tokyo University of Science)
   "Large time behavior of solutions to 1D quasilinear wave equations"
Contents

Preface ........................................................................................................ i
Program ....................................................................................................... ii
Articles

Hideshi Yamane
Asymptotic analysis based on the inverse scattering method

Kazumasa Fujiwara and Hayato Miyazaki
The derivation of conservation laws for nonlinear Schrödinger equations with power type nonlinearities

Jishan Fan and Tohru Ozawa
Weak solutions to the time-dependent Ginzburg-Landau-Maxwell equations

Norihisa Ikoma, Andrea Malchiodi and Andrea Mondino
Area-constrained Willmore surfaces of small area in Riemannian three-manifolds: an approach via Lyapunov-Schmidt reduction

Yuichi Shiozawa
Quantification of global properties of symmetric Markov processes

Tomonari Watanabe
Strichartz type estimates for the damped wave equation and their application

Joe Kamimoto and Toshihiro Nose
Asymptotic limit of oscillatory integrals with certain smooth phases

Yuusuke Sugiyama
Large time behavior of solutions to 1D quasilinear wave equations

Yutaka Kamimura and Hiroyuki Usami
Existence and uniqueness of a nonlinear term realizing a prescribed blow-up time
iv

Noboru CHIKAMI

A note on the well-posedness of the compressible viscous fluid in the critical Besov space

Yoshihito KOHSAKA

On the criteria for the stability of unduloids