Research Report 2018

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Publications

1. K. Li, T. Ozawa, B. Wang
   Dynamical behavior for the solutions of the Navier-Stokes equation,
   Commum. Pure Appl. Anal., 17, Number 4, (2018), 1511-1560.
   DOI:10.3934/cpaa.2018073 (Open Access)

2. N. Bez, C. Jeavons, T. Ozawa, M. Sugimoto
   Stability of trace theorems on the sphere,
   J. Geom. Anal., 28 (2018), 1456-1476.
   DOI:10.1007/s12220-017-9870-8 (Open Access)

3. K. Fujiwara, T. Ozawa
   Lifespan of strong solutions to the periodic derivative nonlinear Schrödinger equation, Evolution Equations and Control Theory, 7, Number 2, (2018),
   275-280. DOI:10.3934/eect.2018013 (Open Access)

4. K. Fujiwara, V. Georgiev, T. Ozawa
   Higher order fractional Leibniz rule,
   J. Fourier Anal. Appl., 24 (2018), 650-665.
   DOI:10.1007/s00041-017-9541-y (Open Access)

5. K. Fujiwara, V. Georgiev, T. Ozawa
   Blow-up for self-interacting fractional Ginzburg-Landau equation,
   Dynamics of PDE, 15, No.3, (2018), 175-182.
   DOI:10.4310/DPDE.2018.v15.n3.a1 (Open Access)

6. J. Fan, T. Ozawa
   Global well-posedness of weak solutions to the time-dependent Ginzburg-Landau model for superconductivity,
   Taiwanese J. Math., 22, No.4, (2018), 851-858.
   DOI:10.11650/tjm/180102 (Open Access)

7. K. Fujiwara, V. Georgiev, T. Ozawa
   Note for global existence of semilinear heat equation in weighted $L^¥infty$ space, Pliska Stud. Math., 30, (2019), 7-20.

8. L. Forcella, K. Fujiwara, V. Georgiev, T. Ozawa
   Local well-posedness and blow-up for the half Ginzburg-Landau-Kuramoto equation with rough coefficients and potential,
   Discrete and Continuous Dynamical Systems A, 39, (2019), 2661-2678.
   DOI:10.3934/dcds.2019111 (Open Access)

9. T. Ozawa, M. Ruzhansky, D. Suragan
   L^p-Caffarelli-Kohn-Nirenberg type inequalities on homogeneous groups,
   Quaterly J. Math., 70, Issue 1, (2019), 305-318.
   DOI:10.1093/qmath/hay040 (Open Access)

10. K. Fujiwara, T. Ozawa

Lifespan of periodic solutions to nonlinear Schr¥"odinger equations,
Nonlinear Wave and Dispersive Equations," RIMS Kokyuroku 2093(2018), 38-46.
(Open Access)

11. S. Machihara, T. Ozawa, H. Wadade
Remarks on the Hardy type inequalities with remainder terms in the framework of equalities,
Adv. Studies Pure Math., (in press).

Invited Talks

1. On improved Hardy inequalities
Workshop in Hangzhou 2018
April 8, 2018
Zhejiang University, Hangzhou, China

2. Improved Hardy inequalities
PDE Workshop
April 30, 2018
Sichuan Normal University, Sichuan, China

3. Lifespan estimates of solutions to NLS without gauge invariance
PDE Seminar
May 3, 2018
Peking University, Peking, China

4. Improved Hardy inequalities
Celebrating Approximate 60s -- An International Conference on Nonlinear PDEs and Its Applications at NYU Shanghai
June 19, 2018
NYU Shanghai, Shanghai, China

5. Lifespan of blowup solutions of DNLS type equation on the torus
PDE Seminar
June 20, 2018
Fudan University, Shanghai, China

6. さまざまなハーディー型不等式
作用素論セミナー
May 25, 2018
Kyoto University, Kyoto, Japan

7. Improved Hardy inequalities
Nonlinear Dispersive Equations at Florianopolis
July 28, 2018
Hotel Mar de Canasvieiras, Florianopolis, Brazil

8. Improved Hardy inequalities
Mathematical Fluid Mechanics and Related Topics - in honor of Professor Hideo Kozono's sixtieth birthday -
September 6, 2018

Tokyo Institute of Technology, Tokyo, Japan

9. 微分型シュレディンガー方程式の自己相似解 (in Japanese)
   PDE Workshop in Miyazaki
   January 9, 2019
   Miyazaki University, Miyazaki, Japan

10. Cauchy problem for the quasilinear evolution equation of transverse wave model
    PDE Workshop Waseda - GSSI, L'Aquila-Pisa
    February 21, 2019
    University of Pisa, Pisa, Italy

Conference Organized

1. Nonlinear Science Colloquium
   Waseda University

   May 29, 2018　Yasuhide Fukumoto (Institute of Mathematics for Industry)
   "Effect of compressibility on stability of a planar front of premixed flame"
   June 14, 2018　Michio Yamada (Research Institute for Mathematical Sciences Kyoto University)
   "Wave resonance and zonal flow formation"
   June 29, 2018　Takashi Maekawa (Yokohama National University)
   「モノづくりの原点、それはカタチ」(in Japanese)

2. International Workshop on "Fundamental Problems in Mathematical and Theoretical Physics"
   Top Global University Project, Waseda University
   July 16-21, 2018
   Waseda University

3. Sapporo Symposium on Partial Differential Equations
   August 21-23, 2018
   Hokkaido University

4. Waseda Workshop on Partial Differential Equations
   December 20, 2018
   Waseda University

5. Waseda Workshop on Partial Differential Equations 2019
   March 22-23, 2019
   Waseda University

Research Summary

1. We have formulated and proved stability of trace theorems on the sphere.
2. We have formulated and proved higher order fractional Leibniz rule.
3. We have clarified a relationship between non-gauge structure and blowup of solutions for nonlinear Schrödinger equations of derivative type.