Research Report 2020

Tohru OZAWA
Department of Applied Physics, Waseda University

Publications

1. J. Fan, T. Ozawa
   Global solutions to the Maxwell-Navier-Stokes system in a bounded domain in 2D,
   Zeitschrift für angewandte Mathematik und Physik, **71**, 136 (2020).
   https://doi.org/10.1007/s00033-020-01364-y
2. T. Ozawa, D. Suragan
   Sharp remainder of the Poincaré inequality,
   Proceedings of the American Mathematical Society, **148**, Number 10, (2020), 4235-4239.
   https://doi.org/10.1090/proc/15119
3. M. Karazym, T. Ozawa, D. Suragan
   Multidimensional inverse Cauchy problems for evolution equations,
   Inverse Problems in Science and Engineering, **28**, 11, (2020), 1582-1590.
   https://doi.org/10.1080/17415977.2020.1739034
4. J. Fan, T. Ozawa
   Well-posedness of a 2D time-dependent Ginzburg-Landau superconductivity model,
   Nonlinear Analysis and Differential Equations, **8**, No.1, (2020), 89-97.
5. T. Ozawa, D. Suragan
   Poincaré inequalities with exact missing terms on homogeneous groups,
   Journal of the Mathematical Society of Japan, **73**, No.2, (2021), 497-503.
6. J. Fan, T. Ozawa
   Regularity criteria for a Ginzburg-Landau-Navier-Stokes system,
   Funkcialaj Ekvacioj, (in press).
7. J. Restrepo, T. Ozawa, D. Suragan
   Inverse abstract Cauchy problem,
   Applicable Analysis, (in press).

Invited talks

1. T. Ozawa
   On the Poincaré and Related Inequalities
   International Workshop on Multiphase Flows: Analysis, Modelling and Numerics
   20201201
   Waseda University（Online）
   Invited

Books

1. S. Ei, Y. Giga, N. Hamamuki, S. Jimbo, H. Kubo, H. Kuroda, H. Kuroda, T. Ozawa, T. Sakajo, and K. Tsutaya (Eds.),
   Proceedings of 45th Sapporo Symposium on Partial Differential Equations,
   Hokkaido University Technical Report Series in Mathematics, **179**, 2020, 98pp.

2. V. Georgiev, T. Ozawa, M. Ruzhansky, and J. Wirth (Eds.),
   Advances in Harmonic Analysis and Partial Differential Equations,
   Trends in Mathematics, Birkhäuser, 2020, 317pages.

3. Y. Giga, N. Hamamuki, H. Kubo, H. Kuroda, and T. Ozawa (Eds.),
   The Role of Metrics in the Theory of Partial Differential Equations,
   Advanced Studies in Pure Mathematics, **85**, 2020, Mathematical Society of Japan, 543pp.

Conference Organized

1. The 45th Sapporo Symposium on Partial Differential Equations
   August 17-19, 2020
   Online

Research Summary

1. We have formulated and the Poimcaré and related inequalities in the framework of equalities.
2. We have formulated and proved higher dimensional inverse Cauchy problems for evolution equations.