Research Report 2019 (Shuichi Kawashima)

Publications

1. K. Nakamura, T. Nakamura and S. Kawashima, Asymptotic stability of rarefaction waves for a hyperbolic system of balance laws, Kinetic and Related Models, **12** (2019), 923–944. doi: 10.3934/krm.2019035

2. S. Kawashima and S. Taniue, Mathematical analysis for a model system of complex fluids, "Theoretical Developments to Phenomenon Analyses based on Nonlinear Evolution Equations", RIMS Kokyuroku, **2121** (2019).

3. Y. Wang, J. Xu and S. Kawashima, Global existence and optimal time-decay estimates of solutions to the generalized double dispersion equation on the framework of Besov spaces, J. Math. Anal. Appl., **481** (2020), 123455. https://doi.org/10.1016/j.jmaa.2019.123455

Research Talks

1. S. Kawashima, A model system of complex fluids and hyperbolic balance laws, International Conference on Modeling, Computations, Theoretical Analysis on Fluid Dynamics and Related Problems, Northwest University, Xi'an, China, June 28–30, 2019.

2. S. Kawashima, Dissipative property for hyperbolic-parabolic systems and application to the compressible Hall-magnetohydrodynamic system, Analysis Seminar, Waseda University, July 12, 2019.

3. S. Kawashima, Dissipative structure for system of magnetohydrodynamics with Hall effect, Conference on Partial Differential Equations in Kitakyushu, Kitakyushu International Conference Center, Kitakyushu, February 8, 2020.

4. R. Nakasato, S. Kawashima and T. Ogawa, Hall 効果を持つ圧縮性磁気粘性流体方程式系の解の時間大域適切性と時間減衰評価に関して (in Japanese), MSJ Spring Meeting 2020, Nihon University, March 16–19, 2020. (Speaker: R. Nakasato). (Cancelled)

Conferences (Organized)

1. Conference: The 15th "Topics in Nonlinear Problems", Kurokami South Campus, Kumamoto University, Kumamoto, Japan, September 12–14, 2019.

2. Seventh China-Japan Workshop on Mathematical Topics from Fluid Mechanics, City Hotel Xiamen, Xiamen, China, November 1–5, 2019.

3. Waseda Workshop on Partial Differential Equations: December–2019, Waseda University, Tokyo, Japan, December 17, 2019.

4. The 37th Kyushu Symposium on Partial Differential Equations, Kyushu University Nishijin Plaza, Fukuoka, Japan, January 27–29, 2020.

5. Conference「若手のための偏微分方程式と数学解析」, Fukuoka University Seminar House, Fukuoka, Japan, September 12–13, 2020.

6. Workshop on Mathematical Fluid Dynamics and Related Topics, Waseda University, Tokyo, Japan, March 10–12, 2020. (Cancelled)

Research Summary

1. We showed the asymptotic stability of rarefaction waves for a model system of hyperbolic balance laws.

2. We developed a mathematical analysis for a model system of complex fluids.

3. We developed a mathematical analysis for a higher order partial differential equations.