

Research Report (April, 2019 - March, 2020)

In the SGU course of Mathematical Physical Science: April 2017-March 2020

Conferring university	Degree name (by completing a course / by thesis only)	Date of conferment
Waseda Univ.	Doctor of Science	Mar. 15, 2020

Enrollment from
April 2017

Department of Pure and Applied Physics Takanori KURODA

I. List of Papers

Non.

II. Record of Awards

Non.

III. List of Talks

1. Kuroda, T.; \yen^{\wedge} Otani, M., "Periodic problem of the complex Ginzburg-Landau equation with focusing nonlinearity," *MSJ Autumn Meeting 2019: Real Analysis*, Kanazawa, Sep. 20, 2019.
2. Kuroda, T., 「放物型方程式の摂動問題としての複素 Ginzburg-Landau 方程式」, *Workshop on Nonlinear PDE in Numazu*, Numazu, Jun. 2, 2019.
3. Kuroda, T., 「増大非線型項を持つ複素 Ginzburg-Landau 方程式の有界領域上に於ける時間周期問題について」, 『第 41 回発展方程式若手セミナー』, Shibukawa, Aug. 26, 2019.
4. Kuroda, T., 「増大型複素 Ginzburg-Landau 方程式の有界領域上での時間周期問題について」, 『第 45 回発展方程式研究会』, Tokyo, Dec. 25, 2019.

IV. Research Results in AY2019

In this academic year, we continue studying from the last AY the complex Ginzburg-Landau equation (CGLE) from the viewpoint of nonlinear parabolic equations, which is also the theme of our JSPS project. Especially, in this AY, we completed one of our research topics and gave some presentations (III-1, 3, 4) on the existence of time-periodic solutions for (CGLE) with non-dissipative nonlinearities on bounded domains, which we made some brief reports last AY. We are now preparing the paper about this topic to be submitted in next AY. Moreover, we were given a chance to talk about the whole of our research topic (III-2).

V. Summary (From April 2017 to May 2020)

All the way in my doctoral course of three years, I have been studying under the theme of "A Study on Complex Ginzburg-Landau Equations Based on the Theory of Parabolic Equations." On this way, I was given a chance to give a presentation in the international conference, AIMS at Taipei University with the support of the SGU project. I could as well give a talk in the international workshop at Waseda University hosted by the SGU project. With the aid of these supports by the SGU project, I could achieve eight goals, three of which are already published. I appreciate the SGU project providing many special courses, which turn my eyes to wider field than I am now studying.