Research Report （April, 2021- March, 2022）

Enrollment from
April 2017
Department of Pure and Applied Mathematics Ryosuke ODOI

I. List of Papers

Ryosuke Odoi, "Symplectic aspects of the tt*-Toda equations", accepted to J. Phys. A

II. List of Talks

Ryosuke Odoi, "Symplectic aspects of the tt*-Toda equations", Short course on Nonabelian Hodge theory, Waseda University, July 1-22, 2021

Ryosuke Odoi, "Symplectic aspects of the tt*-Toda equations and the constant problem", Koriyama Geometry and Physics Days 2021 "tt*-Toda equations and infinite-dimensional Lie algebras", Nihon University, November 14-15, 2021

Ryosuke Odoi, "The constant problem of the tt*-Toda equations", Integrable Systems and Random Matrix Theory seminar, University of Michigan, February 7, 2022

Ryosuke Odoi, "Symplectic approach to the tt*-Toda equations and its application", The 4th International Workshop Geometry of Submanifolds and Integrable Systems, Osaka City University, February 20-23, 2022

III. Research Results in AY2021

I refined on the study of the constant problem (evaluation of the asymptotic constant of the tau-function) for the global solutions of the tt*-Toda equations. The results have been written in a paper, and it is accepted to a journal. Supported by SGU, the research on the Riemann-Hilbert problem which is needed to solve the generalization of the constant problem to the local solutions has been conducted under the guidance of Professor Alexander Its (IUPUI).

IV. Research Plan for AY2022

I would like to write a paper, summarizing the observation on geometric objects in my research.

I would like to solve the Riemann-Hilbert problem for the local solutions of the tt*-Toda equstions. (I would like to resolve the obstruction which has been already seen.)