Research Report（April, 2023- March, 2024）

Enrollment from April 2021 | Department of Department of Pure and Applied Mathematics | Yudai HATERUMA

I. List of Papers

Y. Hateruma and Y. Kaneko, On some Lie-theoretic solutions of the tt*-Toda equations with integer Stokes data, J. Phys. A: Math. Theor. 57 (2024).

II. List of Talks

Yudai Hateruma tt*-Toda 方程式の Stokes 行列と Braid 群, **Koriyama Geometry and Physics Days 2023 "tt*-Toda equations and infinite-dimensional Lie algebras": June 17-18, 2023**

III. Research Results in AY2023

This year, I considered an algebraic structure of Stokes data of the tt*-Toda equations. Specifically, I tried to construct an action of the braid group on the set of the Stokes data.
Our work are not completed, but we made some progress. For example, we obtained a good idea through our regular discussion and we succeeded understanding original idea.

IV. Research Plan for AY2024

The goal of next year is to understand mathematical framework of the conjecture by using of the ODE theory on a complex domain.