

Research Report (April, 2019 - March, 2020)

Enrollment from
April 2017

Department of Pure and Applied Mathematics Ryosuke ODOI

I. List of Papers

None

II. List of Talks

None

III. Research Results in AY2019

I calculated the asymptotic expansion of the tau-function of the auxiliary linear ordinary differential equation of the tt^* -Toda equations. And I obtained the expression of the constant of the asymptotic expansion in terms of asymptotic data and monodromy data, whose relation is explicitly shown in Guest-Its-Lin (arXiv:1707.00259). From these calculations, I obtained an explicit relation between the constant of the tau-function and the generating function which is obtained last year. (The generating function induces a canonical transformation between the canonical local coordinate related to asymptotic data and one related to monodromy data.)

IV. Research Plan for AY2020

The above results are for global solutions of the tt^* -Toda equations, so I would like to generalize them to non-global solutions. And I would like to obtain a rigorous geometric formulation of the symplectic form related to monodromy data.