

CoverPage

- Lalalala
- Наименование вуза, факультета, кафедры
- Тема работы на русском и английском языке
- Имя, фамилия, номер группы автора работы
- Должность, ученая степень, фамилия, инициалы научного руководителя ВКР
- место и год написания

Аннотация

Let me tell about the Riemann-Hilbert problem on elliptic curve. We take a meromorphic matrix function $A(z)$ over a complex manifold and solve the equation $\dot{y} = A(z)y$ depending on A we will get different solution, but the solutions has a monodromy, which can be represented as a set of linear maps. Each map corresponds to a singular point of a A . This takes us to a monodromy, which is a representation of the fundamental group of punctured surface. But, given the monodromy, how can we find A such that A satisfies it?

It turns out that we can generalize our construction and treat the solutions as a trivial bundle sections and A as the matrix of a flat connection inside the bundle. In this more general setting a huge opportunity potentially slumbers, because the language of bundles and connections is more algebraic than the analytic one which was presented in the beginning. Let us confine the generalization to the case of stable bundles since their Chern classes behave better than for a non-stable one, and if the bundle has sufficiently large degree. (The degree of the divisor of the arbitrary section), then the bundle has a set of global sections which form a basis at every point. The profit of this confinement will not be seen in our current inquiries, but this property gives much in terms of algebraic structure of the bundle. However, one can construct the connection explicitly.

- Предполагаемые результаты исследования
- Инструменты исследования
- Наиболее интересные связи с ранее известными результатами

1 Introduction

- Постановка задачи ВКР (Понятно математику)
- Мотивировка
- История вопроса

Let us have an elliptic curve which is a holomorphic manifold. There is a theorem in

Matveeva – Poberezhny

article which deals with the case of a connection over a two-dimensional stable bundle. They find a connection corresponding to a rigid representation (here: the representation induced from a sphere) with 3 branch points.

2 FirstDraftIntroduction

The work treats flat logarithmic connections in holomorphic bundles of rank 2 and degree 0 over elliptic curve. The curve has a fixed modular parameter τ

3 Preliminaries

Определения и теоремы, которые входят в Introduction Понятие когерентного пучка обобщает понятие локально свободного пучка конечного ранга. Локально свободный пучок конечного ранга на многообразии в точности соответствует векторному расслоению.

3.1 Методы явных вычислений

4 Main Results

Результаты Возможно, есть связь между кохомологиями пучка, соответствующего связности, и кохомологиями пучка исходного расслоения.

5 Appendices