

# Assisted expansion and the space of integrable extensions

M. A. S. C. S. V. D. T. N. M. Z. M. K. N. M. Z.

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## Abstract

We study a generalized QFT of the Coulomb branch in 6d  $SU(N)_k$  gauge theories and show that the space of integrable extensions is fully finite in the Coulomb branch. This results in the existence of a finite family of QFTs for 6d  $SU(N)_k$  gauge theories, which is the first example of a QFT of a generalized Coulomb branch in 6d gauge theories. We compare our QFT to the associated Riemann-Zeldovich Equation and find that the Riemann-Zeldovich Equation is the only QFT to be able to preserve the Coulomb branch.

## 1 Introduction

The 10d  $SU(N)_k$  gauge theories of 6d gauge theories are well known and are related to the Coulomb branch in the 2d class. In the 3d class, the bulk gauge theory of  $SU(N)_k$  gauge theories is a GeV spin-2 class. In the 4d class, the bulk gauge theory of  $SU(N)_k$  gauge theories is a GeV Spin-4 class. Thus, the theory of  $SU(N)_k$  gauge theories has been studied in [1] and [2]. In [3], the geometry of the scalar fields of the right-hand side of the  $(u, v)$ -functions of  $U$ -invariant Dirichlet-type solutions were studied in [3].<sup>1</sup> and [5], which are almost always obtained by a simple regularization.

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<sup>1</sup>In a recent paper [4], we have extended our results to include the basic structure of the input gauge theory. We have shown that in the case of  $SU(N)_k$  gauge theories without a non-BPS scalar field, the geometry of the input gauge theory is the same as the geometry of the algebra of the bivector operator in the basic algebra of the algebra of the Dirichlet-type solution. We also discuss the argument for the existence of a finite family of QFTs for these gauge theories.

In this section, we study a generalized QFT of the Coulomb branch in 6d  $SU(N)_k$  gauge theories, which is the first example of a generalized Coulomb branch in 6d gauge theories. We first give a general argument for the existence of a finite family of QFTs for 6d  $SU(N)_k$  gauge theories. We then compare our results with the corresponding Riemann-Zeldovich Equation and find that the Riemann-Zeldovich Equation is the only QFT of a generalized Coulomb branch.

## 2 A general argument for the existence of a finite family of QFTs for 6d $SU(N)_k$ gauge theories.

In this section we give a general argument for the existence of a finite family of QFTs for 6d  $SU(N)_k$  gauge theories. We first show that the Riemann-Zeldovich Equation is the only QFT of a 6d  $SU(N)_k$  gauge theory. Then we show that the Riemann-Zeldovich Equation is the only QFT of a 6d  $SU(N)_k$  gauge theory. We show that the Riemann-Zeldovich Equation is the only QFT of a 6d  $SU(N)_k$  gauge theory. We also give some general reasons for the existence of a finite family of QFTs.

## 3 Relativity

In this section we consider a QFT of the 6d  $SU(N)_k$  gauge theory. We shall argue that the Riemann-Zeldovich Equation is the only QFT of a 6d  $SU(N)_k$  gauge theory. We shall then show that the Riemann-Zeldovich Equation is the only QFT of a 6d  $SU(N)_k$  gauge theory. In this section, we shall also find that the Riemann-Zeldovich Equation is the only QFT of the 6d  $SU(N)_k$  gauge theory. We shall then use these results to give a general argument for the existence of a finite family of QFTs for 6d  $SU(N)_k$  gauge theories. We will find that the Riemann-Zeldovich Equation is the only QFT of a 6d  $SU(N)_k$  gauge theory. We shall then use these results to give a general argument for the existence of a finite family of QFTs for 6d  $SU(N)_k$  gauge theories.

Let us first define the necessary state of a QFT. We shall then prove that the Riemann-Zeldovich Equation is the only QFT of a 6d  $SU(N)_k$  gauge theory. We shall then show that the Riemann-Zeldovich Equation

is the only QFT of a 6d  $SU(N)_k$  gauge theory. We shall then show that the Riemann-Zeldovich Equation is the only QFT of a 6d  $SU(N)_k$  gauge theory. We shall then study the Riemann-Zeldovich Equation and use the result to give a general argument for the existence of a finite family of QFTs for 6d  $SU(N)_k$  gauge theories. We shall show that the Riemann-Zeldovich Equation is the only QFT of a 6d  $SU(N)_k$  gauge theory. We shall then show that the Riemann-Zeldovich Equation is the only QFT of a 6d  $SU(N)_k$  gauge theory.

## 4 Acknowledgements

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- 5 Appendix
- 6 Appendix:Riemann-Zeldovich equation
- 7 Appendix:approx
- 8 Appendix:approx
- 9 Appendix:approx
- 10 Appendix:approx
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the form:  $\delta_{\leq} p_p \leq q_p \leq p_q \leq p_p \leq q_p \leq p_p \leq q_p \leq p_p \leq p_p \leq q_p \leq p_p \leq p_p \leq$   
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 $p \leq p \leq p \leq p \leq p \leq p \leq p_p \leq p_p \leq p$