

Compactification in higher-spin fields with massless synchronous couplings

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June 14, 2019

Abstract

We study compactification effects in the $SU(3)$ Chern-Simons theory of higher-spin fields with massless synchronous couplings, by performing the standard $1/2$ -Chern-Simons decomposition in terms of the $1/4$ -Chern-Simons decomposition. In particular, we show that compactification occurs in the continuum limit, and in the case of the $SU(2)$ theory, we show that it coincides with the corresponding $SU(2)$ compactification in the continuum limit. We also show that compactification results in a non-compact, non-compact, compactification-free theory, which is the same as the known $SU(4)$ theory with massless synchronous couplings. Finally, we show that compactification in the $SU(3)$ theory is accompanied by a compactification-free theory which corresponds to the known $SU(4)$ theory with massless synchronous couplings.

1 Introduction

The Chern-Simons theory (see [?]) is a compactification theory of supersymmetric fields. In this paper we will study the Chern-Simons theory with massless synchronous couplings, using the method of [?].

The Chern-Simons theory is a very interesting and important theory. It has been studied in many contexts by the authors of[?]. Indeed, in[?] we have begun to use the method of[?] to study the Chern-Simons theory. The authors of[?] have started the study of the Chern-Simons theory with

massless couplings, using the method of [?]. We will show that the Chern-Simons theory is a