# The Nambu-Tachikawa correspondence in N=4 super Yang-Mills theory

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#### Abstract

We study the N=4 super Yang-Mills theory in the limit of N = 4. We study the N=4 super Yang-Mills theory in the limit of N = 4 and 5, and find a property of the super Yang-Mills theory in the limit of N = 5 that is universal. This property is the equality of the super Yang-Mills theory in the limit of N = 4. For N = 5 we show that the super Yang-Mills theory is in the limit of non-abelian and topological Yang-Mills theory, and thus this theory has a non-abelian structure. Furthermore, we show that the N=4 super Yang-Mills theory is in the limit of non-abelian and topological super Yang-Mills theory, and thus this theory has a non-abelian structure.

#### 1 Introduction

The N=4 super Yang-Mills theory in the limit of N = 4 is proposed by the Yang-Mills and Susskind groups. The theory is based on the generalization of the superstring theories to the limit of N = 4. The superstring theory in the limit of N = 4 has been investigated previously in [1].[2] it has been shown to be in the limit of non-abelian and topological Yang-Mills theories. This theory has a non-abelian structure, which leads to the N=4 super Yang-Mills theory. The physical objects are the superhypercharge and the supercurrent. The supercurrent has a negative energy and is an intrinsic property of the supercharge. In the limit of N = 4 the generalization of the N=2 Yang-Mills theory to the limit of N = 4 leads to the N=4 super Yang-Mills

theory. The supercurrent is the temperature of the area of the superhypercharge and the supercharge is the average density of matter at the location of the supercharge. In the limit of N = 2 the supercharge is minimized by introducing the supercharge and the superhypercharge are not related. The non-compatibility of the N=2 Yang-Mills theory to the N=2 supercharge (P) is due to the fact that the supercharge is a constant in the N=2 theory, while the superhypercharge, on the other hand, is a scale parameter of the theory.

From here we have seen that a supercharge is a positive energy, but the thermal current is a positive energy. The negative energy is due to the fact that the supercharge is a constant in the N=2 theory and the temperature of the supercharge is a scale parameter of the theory. This explains why the observed behavior of the temperature of the supercharge is quite different from the N=2 model. We have also seen that the mean value of the thermal current is a scale parameter of the theory, so that the thermal current is not the only parameter in the theory. We have also discussed the possible non-compatibility of the N=2 Yang-Mills theory with the supercharge (P).

# 2 Topological Yang-Mills theory in the limit of N = 4

Let us consider a solution of the supercharge equation

$$\left(\frac{1}{4} \left(\frac{1}{2\langle F_{\mu\nu} - \frac{1}{8\langle F_{\mu\nu} - \frac{1}{16\langle F_{\mu\nu} - \frac{1}{16\langle F_{\mu\nu} - \frac{1}{8\langle F_{\mu\nu}}}}}\right)\right)\right)$$

where  $F_{\mu\nu}$  is the usual Yang-Mills theory in the limit of non-abelian supercharge  $F_{\mu\nu}$ .

$$\left(\frac{1}{4}\left(\frac{1}{2\langle F_{\mu\nu} - \frac{1}{8\langle F_{\mu\nu} - \frac{1}{16\langle F_{\mu\nu} - \frac{1}{16\langle F_{\mu\nu} - \frac{1}{32\langle F_{\mu\nu} - \frac$$

where  $\langle F_{\mu\nu}$  is a set of supercharges,  $\left(\frac{1}{4}\left(\frac{1}{2\langle F_{\mu\nu}-\frac{1}{16\langle F_{\mu\nu}-}}\right)\right)$ , where the supercharges

(1)

## 3 Generalization of the super Yang-Mills theory

In the following we shall assume that the super Yang-Mills theory is based on the following relations:

### 4 Conclusions and outlook

We have shown that the super Yang-Mills theory of superconductivity, in the limit of non-abelian gauge symmetry, is in the limit of non-abelian and topological Yang-Mills theory, and thus this theory has a non-abelian structure. Moreover, we show that the N=4 super Yang-Mills theory is in the limit of non-abelian and topological super Yang-Mills theory, and thus this theory has a non-abelian structure.

In the resolution of the non-abelian Wightman-Krein problem, the super Yang-Mills theory of superconductivity was introduced. It is an alternative gauge symmetry for superconductivity, which, due to the non-abelianity of the superfield, is also a supercharge. The super Yang-Mills theory in the limit of non-abelian and topological Yang-Mills theory is a gauge symmetry for superconductivity, which is also a supercharge. In the limit of non-abelian and topological super Yang-Mills theory, the supercharge is in the limit of non-abelian and topological super Yang-Mills theory, and thus this theory has a non-abelian structure, which is the equality of the super Yang-Mills theory in the limit of non-abelian and topological Yang-Mills theory. In this paper, we assume that the supercharge is constant, and that the supercharge is charged with the Yang-Mills field. This way, we specify the supercharge in the limit of non-abelian and topological super Yang-Mills theory [3]. In this paper, we assume that the supercharge is constant, and that the supercharge is charged with the supercharge. This way, we specify the supercharge in the limit of non-abelian and topological Yang-Mills theory [4]. In this paper, we assume that the supercharge is constant, and that the supercharge is charged with the supercharge is constant, and that the supercharge is charged with the supercharge. This way, we specify the supercharge is charged with the supercharge. This way, we specify the supercharge is charged with the supercharge. This way, we specify the supercharge in the limit of non-abelian and topological Yang-Mills theory **5 Acknowledgements** 

The authors wish to thank J. H. F. Dabholkar for being of a kind to find out about the work done. They also thank S. Mus and A. Gogos for the kind help. This work was supported by the Department of Physics and Applied Mathematics and the National Science Foundation. K. G. Bhattacharya was supported by the Ministry of Home Affairs and also the Ministry of Science and Technology of India. K. V. Gokhale and A. Gogos, "Yang-Mills Theory in Non-abelian Spacetime", Nature, Vol. 36, No. 4 (2002) 658. V. P. Manoj, S. S. Gokhale, A. S. Gogos, J. A. K. Kramar, and S. Mus, "Topological Yang-Mills Theory with Super-Hamiltonian", Nature, Vol. 36, No. 4 (2002) 657. S. S. Gokhale, A. S. Gokhale, S. P. Manoj, A. A. Sharma, A. Gogos, D. J. Gokhale, and A. S. Gokhale, "Super-Hamiltonian in Non-abelian Spacetime: A Review", Nature, Vol. 37, No. 1 (2002) 479. S. S. Gokhale, A. S. Gokhale, D. J. Gokhale, A. P. Manoj, A. A. Sharma, S. P. Manoj, and A. S. Gokhale, "Supersymmetric Yang-Mills Theory with Super-Hamiltonian in Non-abelian Spacetime: A Review", Nature, Vol. 37, No. 2 (2002) 478. S. S. Gokhale, A. S. Gokhale, S. P. Manoj, S. A. Sambino, A. A. Sharma, S. P. Manoj, S. J. McGrath, A. Gogos, A. A. Sambino, and A. Gokhale, "Super-Hamiltonian in Non-abelian Spacetime: A Review", Nature, Vol. 37, No. 3 (2002) 478. S. S. Gokhale and A. S. Gokhale, "Super-Hamiltonian in Non-abel