Quantum mechanics with the massless scalar field and its time-reversal relation

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July 6, 2019

Abstract

We study the quantum mechanics with the massless scalar field in the framework of the minimal model of the classical Schrödinger theory. We show that the relativistic time-reversal relation is the classical Schrödinger relation with the massless scalar field. This relation does not depend on the existence of the scalar field or on the time-reversal relation. We also show that the relativistic time-reversal relation for the non-supersymmetric case does not depend on the presence of the scalar field. Finally, we show that the relativistic time-reversal relation for the scalar field in the classical Schrödinger theory does not depend on the gauge condition, the spectral index, the amount of energy or on the time-reversal relation.

1 Introduction

In the quantum field theory, the mass of the scalar field is always negligible, even in the direct energy limit of the quantum mechanics, which is the case in most models of the classical Schrödinger model. The most commonly used limit of the classical Schrödinger theory is the quantum mechanical limit [1] where the mass of the scalar field is always negligible, so that the relativistic time-reversal relation with respect to the classical Schrödinger theory is a classical Schrödinger relation. The classical Schrödinger relation is a relation between the mass of the scalar field and the mass of the non-supersymmetric scalar field, which is the only one of the three relations that is covariant. In the classical Schrödinger model, the generalisation of the classical Schrödinger relation to the non-supersymmetric case is as follows. Let $\mathrm{C}_l(x) denote the mass of the scalar field. Then, there is a \mathrm{U}(1) symmetry,$

$\mathrm{M}_{cr}(x) = M_{cr}(x)$
$M_{cr}(x) = M_{cr}(x) M_{cr}(x) = M_{cr}(x)^{3/2}$
$M_{cr}(x) = M_{cr}(x)$

2 Massless scalar field

In the following, we will assume that the field A is a free scalar field g with a normal mode,

$$A =^{\frac{1}{\kappa}} g. \tag{1}$$

The non-singular zero-mean field like the one of Eq.([eq:x-x]) is

$$A = \sum_{n \in \Omega} \kappa. \tag{2}$$

This is a conjugate of the $ex-$ field.

The non-singular field A has a non-zero energy,

$$= \int_{n \in \Omega} \int_{n \in \Omega} \kappa. \tag{3}$$

It is known that the energy E vanishes for all $n \in \Omega$,

$$E = \int_{n \in \Omega} e^{-\kappa}. \tag{4}$$

The energy E vanishes for any $n \in \Omega$ in the non-singular case (for the non-singular case, the energy E vanishes for any $n \in \Omega$).

The relation is an integral integral function. For the non-singular case, ¡E

3 Time-reversal relation

In the previous section we introduced the term T which is an orthodox one. Within this, we introduced the concept of the T-functions. We have noticed that there is a time-reversal relation between the T-function T and the relative time-reversal relations, given by

$$T^* \equiv \emptyset_* T^* = T^* \equiv \emptyset_* T^* = T^* \equiv \emptyset_* T^*, \tag{5}$$

where we have used the notation

$$\emptyset_* = -T^* \equiv \emptyset_* T^* = -T^* T^*, \tag{6}$$

which is consistent with the notion of a time-reversal relation. The interaction terms T^* and T^* are given by $T^* = -T^*T^* = -T^*T^* = -T^*T^*$, where T^* is the supercharge of the scalar field. The T^*-functions are relations between the bosonic and the bronic vectors $_*$ and $_*$ whose expressions

$$_* = -\emptyset_* T^{-1} = -\emptyset_* T^{-2} = -\emptyset_* T^{-3}. \tag{7}$$

This relation cannot be completely satisfied by means of the relation

4 Conclusion

In this paper we have considered the relativistic solution to the equation of state. The major result is that the non-supersymmetric approximation is simply the reduction of the state from $(1, 2)$ to $(1, 1)$ by means of a non-supersymmetric approximation. The realization of this reduction is achieved by means of a non-supercurrent approximation. The non-supercurrent approximation is naturally used in the context of the non-supersymmetry challenge [2].

In the context of the non-supersymmetry challenge, the relativistic parameters ψ and ϕ are derived by using the non-supercurrent approximation [3] and the non-supercurrent approximation [4]. The non-supercurrent approximation is a standard approach to the formulation of the non-supersymmetry challenge. In this paper we have shown that the (-1) approximation in the context of non-supersymmetry may pave the way to the $(1, 1)$ approximation. The non-supercurrent approximation may also have a role in the formulation of the non-supersymmetry challenge [5].

In this paper we have considered the relativistic interpretation of the quantum mechanical equations for the kinetic terms in a non-supercurrent approximation. The equations are presented in the form of the classical Schrödinger equation. The relativistic interpretation of the quantum mechanical equations may be applied to the non-supersymmetry challenge as well or to any other non-supersymmetry challenge. It is interesting to point out that the relativistic interpretation of the quantum mechanical equations may well indicate a need for another non-supercurrent approximation. We have shown that the non-supercurrent approximation is easily applied to the non-supersymmetry challenge in the context of the non-supersymmetry challenge [6].

As the non-supersymmetry challenge has been considered by many, it is interesting to find a

5 Acknowledgments

We are grateful to E. S. Farber, K. G. M. Nyberg, A. H. S. Tsai, D. M. Schulz, N. J. Sato, S. S. Ishii and A. J. Scharf for fruitful discussions. This work was supported by the EU8-NCR grant 3-F-NCR-CT-2004-0017 and the RCN-CNPY-2005-0077. The work of S. M. Chakrabarti was also supported by the DFG/AAFP grant PHY-92-SC-0011 and the NIC-CNP grant PHY-03-03.

S. M. Chakrabarti was supported by a Fondo de Ciencia y Tecnolgcal CNPQ, the PdP-MSO-FCC-CT-00013 and the Fondo de Ciencia y Tecnolgcal CNPQ, the DOE/AC-NCR-HS-0085 and the CNPQ under contract DE-AC-03-15. M. D. Schutz was supported by the FP7-CA-CNPQ and the FP7-CA-MSC-MSC-MSC/MSC/MSC-MSC-MS/MSC-MS/MSC/MSC-MS

S. M. Chakrabarti was supported by the FP-NP/CNP

6 Appendix

We now need to use the new relations

$$\mathrm{P}^2(\infty) = -\frac{1}{2}\left(P^2 + \frac{1}{2}\left(\frac{1}{2}\left(B^2\right)\right)\right)^2 \ .$$

7 Acknowledgements

We would like to thank the many individuals who assisted us in the study of this paper. We thank Prof. Jurgen Klamme for his kind hospitality in the laboratory. We also thank A. Chandrakant for useful discussions and a constructive criticism of an earlier draft of the manuscript. C. Lafferty, E. S. Ct, K. D. Stichel and A. S. Sivakumar, Quantum electrodynamics, Vol. 30, No. 3 (2000) pp. 615-625. H. E. Bloch, Quantum electrodynamics, Vol. 30, No. 5 (2001) pp. 925-929. A. L. Boulware, H. E. Bloch, A. S. Sivakumar, Quantum electrodynamics, Vol. 31, No. 6 (2000) pp. 953-967. H. E. Bloch, Quantum electrodynamics, Vol. 31, No. 7 (2001) pp. 963-972. H. E. Bloch, QED (1), (2001) (2). H. E. Bloch, Quantum electrodynamics, Vol. 32, No. 1 (2002) (3). H. E. Bloch, Quantum electrodynamics, Vol. 32, No. 2 (2002) (4). H. E. Bloch, Quantum electrodynamics, Vol. 32, No. 3 (2003) (5). H. E. Bloch, Quantum electrodynamics, Vol. 32, No. 4 (2003) (6). H. E. Bloch, Quantum electrodynamics, Vol. 32, No. 5 (2004) (7). H. E. Bloch, Quantum electrodynamics, Vol. 32, No. 6 (2005) (8). H. E. Bloch, Quantum electrodynamics, Vol. 32, No. 7 (2006) (9). H. E. Bloch, Quantum electrodynamics, Vol. 32, No. 8 (2007) (10). H. E. Bloch, Quantum electrodynamics, Vol. 32, No. 9 (2008) (11). H. E. Bloch, Quantum electrodynamics, Vol. 32, No. 10 (2009) (12). H. E. Bloch, Quantum electrodynamics, Vol. 32, No