Paraquantum Strings in Noncommutative Spacetime

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ABSTRACT

A parabosonic string is assumed to propagate in a total noncommutative target phase space.

Open strings between two parallel DpDq branes and closed ones.

This leads to a generalization of the oscillators algebra of the string and the corresponding Virasoro algebra.

The mass operator is no more diagonal in the ordinary Fock space, a redefinition of this later will modify the mass spectrum, so that, neither massless vector state nor massless tensor state are present.

The restoration of the photon and the graviton imposes specific forms of the noncommutativity parameter matrices, partially removes the mass degeneracy and gives new additional ones.

In particular, for the D-branes, one can have a tachyon free model with a photon state when more strict conditions on these parameters are imposed, while, the match level condition of the closed string model induces the reduction of the spectrum.