

N=2 Twisted Super Yang-Mills on a Lattice in Two Dimensions

Presenter: Noboru KAWAMOTO

Alessandro D'Adda, Issaku Kanamori, Noboru Kawamoto, Kazuhiro Nagata

Abstract: We propose a formulation which realizes exact twisted gauge supersymmetry for all super charges on a lattice by introducing twisted superconnections. A N=2 twisted super Yang-Mills action is explicitly constructed on a lattice. We introduce a mild noncommutativity for super charges to preserve Leibniz rule of difference operator on the lattice, which can be accommodated by matrix representations for operators and fields as well. The formulation is based on the twisted superspace formalism where the Dirac-Kähler fermion mechanism plays a crucial role for the twisting procedure.