Turkish Journal of Physics

@

Non-commutative and Non-anticommutative Supersymmetric U(1) Gauge Theories

Kayhan ÜLKER
Feza Gürsey Institute, Çengelköy, 34684, İstanbul-TURKEY
e-mail: kulker@gursey.gov.tr

Abstract: We introduce a parent action for component fields of N=1 supersymmetric U(1) gauge theory in four dimensions which generates both the original and the (s-) dual supersymmetric actions. By using the noncommutative and nonanticommutative deformations of this theory we propose the corresponding parent actions as generalizations of the ordinary case. We then show that duality symmetry under the interchange of fields with duals accompanied by the replacement of the noncommutativity and nonanticommutativity parameters in a suitable way.

Key Words: Supersymmetry, non-commutative theories, non-anti-commutative theories, duality.