Joint CQSE and CASTS Seminar

Weekly Seminar
Sep. 15, 2017 (Friday)

TIME Sep. 15, 2017, 14:30 ~ 15:30
TITLE Quantum Toroidal Algebra: From Integrable Statistical Model to Duality in String Theory
SPEAKER Prof. Yutaka Matsuo
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PLACE Rm716, CCMS & New Physics Building, NTU

Abstract

From the recent study of integrable lattice model, a new symmetry (which is referred in many different names) was found. It is a q-deformation of area-preserving diffeomorphism and describes a system of interacting fermionic particles. Interestingly, the same symmetry played a profound role in the non-perturbative dynamic in supersymmetric gauge theory and string theory. In particular, the symmetry has SL(2,Z) automorphism which can be related to the strong/weak duality (so called S-duality) in gauge/string theory. In my talk, I hope to explain these new development to some extentl with the focus on 4D/2D duality in supersymmetric gauge theories and the integrabile lattice model associated with it.