



Contribution ID: 283

Type: **Parallel Talk**

Supersymmetric three dimensional conformal sigma models

Thursday 26 July 2007 15:00 (20 minutes)

We construct novel conformal sigma models in three dimensions. Nonlinear sigma models in three dimensions are nonrenormalizable in perturbation theory. We use Wilsonian renormalization group equation method to find the fixed points. Existence of fixed points is extremely important in this approach to show the renormalizability. Conformal sigma models are defined as the fixed point theories of the Wilsonian renormalization group equation. The Wilsonian renormalization group equation with anomalous dimension coincides with the modified Ricci flow equation. The conformal sigma models are characterized by one parameter which corresponds to the anomalous dimension of the scalar fields. Any Einstein-Kähler manifold corresponds to a conformal field theory when the anomalous dimension is $\gamma = -1/2$. Furthermore, we investigate the properties of target spaces in detail for two dimensional case, and find the target space of the fixed point theory becomes compact or noncompact depending on the value of the anomalous dimension.

Author: Dr ITOU, Etsuko (Kyoto University, YITP)

Co-authors: Prof. HIGASHIJIMA, Kiyoshi (Osaka University); Mr HIGASHI, Takeshi (Osaka University)

Presenter: Dr ITOU, Etsuko (Kyoto University, YITP)

Session Classification: Theoretical Models (String Theory and Formal Aspects of SUSY) 1

Track Classification: Theoretical Models (String Theory and Formal Aspects of SUSY)