



Contribution ID : 325

Type : **Oral talk**

## Four-vector deformations and holographic principle

*Thursday, 24 October 2024 17:12 (12)*

The study of theories related to experimental physics, such as supersymmetric gauge theories (SUSY QFT) and strongly correlated systems, is very important for modern science. String theory, particularly the AdS/CFT correspondence, is a key tool for these studies. It allows us to develop methods to study and create gauge field theories and understand non-Lagrangian operators through supergravity solutions. The Yang-Baxter deformation technique maps nonlinear transformations from supergravity solutions to gauge field theories using AdS/CFT. This non-linear transformation, based on hidden symmetries of supergravity equations, was initially limited to Abelian isometries. However, it has been extended to non-Abelian isometries. This generalization provides a way to find a new non-supersymmetric conformal manifold in gauge field theories.

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**Session Classification** : HEP Theory

**Track Classification** : High energy physics: theory