



Contribution ID: 8

Type: **not specified**

A fresh look at the (non)-Abelian Landau-Khalatnikov-Fradkin transformations

Wednesday 14 March 2018 10:00 (30 minutes)

The Landau-Khalatnikov-Fradkin transformations (LKFTs) allow to interpolate n -point functions between different gauges. We first offer an alternative derivation of these LKFTs for the gauge and fermions field in the Abelian (QED) case when working in the class of linear covariant gauges. Our derivation is based on the introduction of a gauge invariant transversal gauge field, which allows a natural generalization to the non-Abelian (QCD) case of the LKFTs. To our knowledge, within this rigorous formalism, this is the first construction of the LKFTs beyond QED. The renormalizability of our setup is guaranteed to all orders. We also offer a direct path integral derivation in the non-Abelian case, finding full consistency.

Primary authors: Mr DE MEERLEER, Tim (KULeuven); Prof. DUDAL, David (KULeuven); Prof. SORELLA, Silvio (UERJ); BASHIR, Adnan (University of Michoacan); Dr DALL'OLIO, Pietro

Presenter: Mr DE MEERLEER, Tim (KULeuven)

Session Classification: Talks - Wed, Morning, 1st session