Contribution ID: **42**   Type: **Oral contribution**

Light-Front Quantization of the Vector Schwinger Model \\ with a Photon Mass Term in Faddeevian Regularization

Thursday, 24 September 2015 16:50 (20 minutes)

In this talk, we study the light-front quantization of the vector Schwinger model with photon mass term in Faddeevian Regularization, describing two-dimensional electrodynamics with mass-less fermions but with a mass term for the $U(1)$ gauge field \cite{13}-\cite{15}. This theory is seen to be gauge-non-invariant (GNI). We then construct a gauge-invariant (GI) theory corresponding to this GNI theory using Stueckelberg mechanism and then recover the physical content of the original GNI theory from the newly constructed GI theory under some special gauge-fixing conditions (GFC's). We then study LFQ of this new GI theory using Hamiltonian, path integral and BRST formulations.

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Session Classification: PARALLEL SESSION IV