

## ОБЪЕДИНЁННЫЙ ИНСТИТУТ ЯДЕРНЫХ ИССЛЕДОВАНИЙ Лаборатория теоретической физики им. Н. Н. Боголюбова

## Семинар "Физика адронов"

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## Analytic structure of the Landau gauge gluon propagator

Positivity violations in the ghost and gluon propagators indicate color confinement, i.e. the absence of the corresponding colored particles from the asymptotic state space. In this talk we present the first explicit solutions of the Yang-Mills Dyson-Schwinger equations for complex momenta in a truncation that respects multiplicative renormalizability and transversality. The resulting complex propagators are positivity violating and furthermore analytic apart from distinct cut structures on the real, negative momentum axis. These propagators are the vital input to on-going computations of the glueball spectrum in Landau gauge Yang-Mills using the Bethe-Salpether equation.