

# The Primitive Domain for Analytic Off-shell Correlators in SFT

*Wednesday 22 September 2021 17:30 (30 minutes)*

The work of de Lacroix, Erbin, and Sen (LES) from 2018 showed that the Feynman loop diagrams (those without any massless internal propagator) in closed superstring field theory are analytic on a domain in complex external momenta variables. We prove an analytic extension of the LES domain to a larger domain, using complex Lorentz transformations and Bochner's tube theorem. Explicit applications of our formula to 2-, 3-, and 4-point functions show that the extension equals the well-known Primitive domain. In the case of 5-point functions, we do the analysis for limited subcases.

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