

# **Nuclear Theory Seminar**

**Friday, April 29th, 4:00 PM**

## **Bulk spectral function sum rule in QCD-like theories with a holographic dual**

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### Abstract:

In this talk, the sum rule for the spectral function of the stress-energy tensor in the bulk (uniform dilatation) channel is derived for a general class of strongly coupled field theories. This class includes theories holographically dual to a theory of gravity coupled to a single scalar field, representing the operator of the scale anomaly. In the limit when the operator becomes marginal, the sum rule coincides with that in QCD. Using the holographic model, we verify explicitly the cancellation between large and small frequency contributions to the spectral integral required to satisfy the sum rule in such QCD-like theories.