

BOSTON UNIVERSITY GEOMETRY AND PHYSICS SEMINAR

CELESTIAL HOLOGRAMS FOR SELF-DUAL QCD

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CCDS 365, Nov 1, 2023, 4-5pm

Tea: 3:45pm in Room 365

Abstract: Over the past few years there's been rapid progress in understanding the classical and quantum integrability of 4d theories. In this talk I will review some of these advances in the context of self-dual Yang-Mills and gravity. Both are classically integrable, reflected in the existence of infinite dimensional hidden symmetry algebras. At the quantum level these symmetries are anomalous, but fortunately integrability can be restored by coupling to appropriate matter.

I will then show how a certain family of quantum integrable theories of self-dual Yang-Mills coupled to fermionic matter can be engineered in twisted string theory. This allows for a top-down construction of the hidden symmetry in a holographically dual description.

See <http://math.bu.edu/research/geom/seminar.html> or contact Yu-Shen Lin (yslin@bu.edu) or Brian Williams (bwill22@bu.edu) for more information.