

Abstract Submitted
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Recursive Techniques for Computing Gluon Scattering in Anti-de-Sitter Space¹ CLAUDE SHYAKA, Hendrix Coll, SAVAN KHAREL, Davidson Coll — The anti-de Sitter/conformal field theory correspondence is a relationship between two kinds of physical theories. On one side of the duality are special type of quantum (conformal) field theories known as the Yang-Mills theory. These quantum field theories are known to be equivalent to theories of gravity in Anti-de Sitter (AdS) space. The physical observables in the theory are the correlation functions that live in the boundary of AdS space. In general correlation functions are computed using configuration space and the expressions are extremely complicated. Using momentum basis and recursive techniques developed by Raju, we extend tree level correlation functions for four and five-point correlation functions in Yang-Mills theory in Anti-de Sitter space. In addition, we show that for certain external helicity, the correlation functions have simple analytic structure. Finally, we discuss how one can generalize these results to n-point functions.

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