

Abstract Submitted
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Chiral Sum Rules from QCD Current Algebra on a Null-Plane¹

TIMOTHY HOBBS, SILAS BEANE, University of Washington, Seattle — As basic relations correlating physical cross sections to low-energy constants (e.g., the pion decay constant f_π and axial coupling g_A in the case of pion-nucleon scattering), sum rules have the potential to illuminate strong interaction physics over a large sweep of hadronic momenta. In this talk, I will briefly overview a recent unified derivation of a wide class of sum rules obtained using the chiral current algebra of QCD formulated on a light-like hyperplane (i.e., Dirac's null-plane). In the end, I will show that our formulation, when married to the technology of dispersion relations, allows us to write novel constraints on the Regge behavior of scattering amplitudes for various processes, including Compton scattering and pion electroproduction off the nucleon.

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