

Abstract Submitted  
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**Current-current correlators as a probe of the chirality-flip scale in QCD**<sup>1</sup> TRANG NGUYEN, PETER TANDY, Kent State University — In the chiral limit, vector and axial vector current-current correlators are identical, and quark chirality is preserved, to any finite order of perturbation theory in QCD. The difference of such correlators, as distance increases from  $x = 0$ , probes the scale for the onset of the leading non-perturbative phenomena in QCD. We examine the influence of dynamical chiral symmetry breaking upon such a correlator difference and deduce the characteristic distance scale for the onset of this non-perturbative phenomena. The analysis is fully covariant and uses ladder-rainbow dynamics constrained by the quark condensate. Comparison is made with the non-perturbative distance scale deduced some years ago in a similar analysis based on the Instanton Liquid model.

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