

# 10th International Conference on Hard and Electromagnetic Probes of High-Energy Nuclear Collisions



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Type: **Oral Presentation**

## Finite $N_c$ corrections in the Balitsky-Kovchegov equation at next-to-leading order

*Monday 1 June 2020 12:00 (20 minutes)*

The Colour Glass Condensate effective field theory is a useful framework for studying heavy ion collisions at ultrarelativistic energies, such as those reached at the Large Hadron Collider at CERN. In this framework, we study the rapidity evolution of Wilson lines that appear explicitly in cross section expressions. The next-to-leading order BK (Balitsky-Kovchegov) equation for the 2-point Wilson line correlator involves 6-point correlators of Wilson lines. These correlators are typically calculated only in the large- $N_c$  limit. I will present a fully analytic calculation of these correlators in the finite  $N_c$  case, using the Gaussian Truncation. We use these results to find the relative importance of finite  $N_c$  corrections to the next-to-leading order evolution equation. We show numerically that the finite  $N_c$  corrections are negligible, as expected.

### Collaboration (if applicable)

### Track

Initial State

### Contribution type

Contributed Talk

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