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## Singularities and Resummation between the Jet and Color Glass Condensate Evolution Equations.

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My MSc thesis involves the study of a map that links jet evolution to CGC (color glass condensate) evolution. In recent years, there has been a concerted effort to formalize the many similarities between jet evolution, which models high energy particle production experiments - and CGC evolution, which models high energy scattering experiments. To this end, a conformal map which establishes the link between jet and CGC evolutions has been identified. My goal is to investigate the various properties of the aforementioned conformal map to lay the foundation to identify phenomenological shortcomings of CGC evolution. More specifically, there exist collinear singularities in the JIMWLK equation (an example of a CGC evolution equation) at the NLO level which do not exist in the standard jet evolution equation at the NLO level. The aim is to use the conformal map to reverse engineer the required mechanisms in the JIMWLK equation for greater phenomenological success.

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