Color Glass Condensate and Lund Strings

François Gelis

June 26th, 2023

Institut de
Physique Théorique
CEA/DRF Saclay

Where

- PhD: Annecy, France, 1996-1999: photon emission by the QGP
- Postdocs: 1999-2001: BNL, USA, 2001-2002: Orsay, France
- Since 2002: Institute of theoretical Physics, Saclay
- 2007-2008: Theory division, CERN

What

- QFT at finite temperature
- Photon emission, Landau-Pomeranchuk-Migdal effect
- Gluon saturation, Color Glass Condensate
- Factorization in nucleus-nucleus collisions
- Evolution during the very early stages, isotropization

What I would like to learn

- Geometrically, the Lund strings and the CGC (at very early times) are similar. Is this coincidental, simply due to the geometry of a high energy collision?
- Is the Lund string model just an empirical parameterization of some phenomenological observations? Or can it be connected, even if in a loose way, to the underlying QCD?
- If a CGC computation provides the color fields present in the system shortly after a collision, can this be used as input by the Lund model to predict the outcome in terms of hadron production?