

# Multi-Parton Systems in a QCD Medium

Pitch

Projeto Integrador de Curso 2



**TÉCNICO**  
UNIVERSIDADE  
DE LISBOA



Tomás Gaspar, 102762

Supervisors:

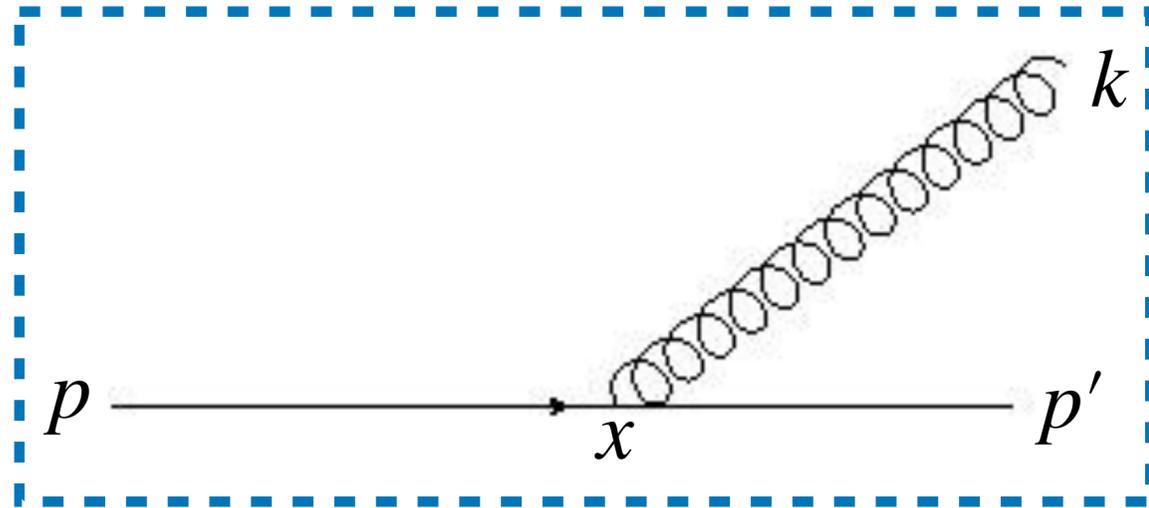
*Prof. Liliana Apolinário, Dr. Balbeer Singh*

Instituto Superior Técnico  
Laboratório de Instrumentação e  
Física Experimental de Partículas

# Proton-Proton collisions

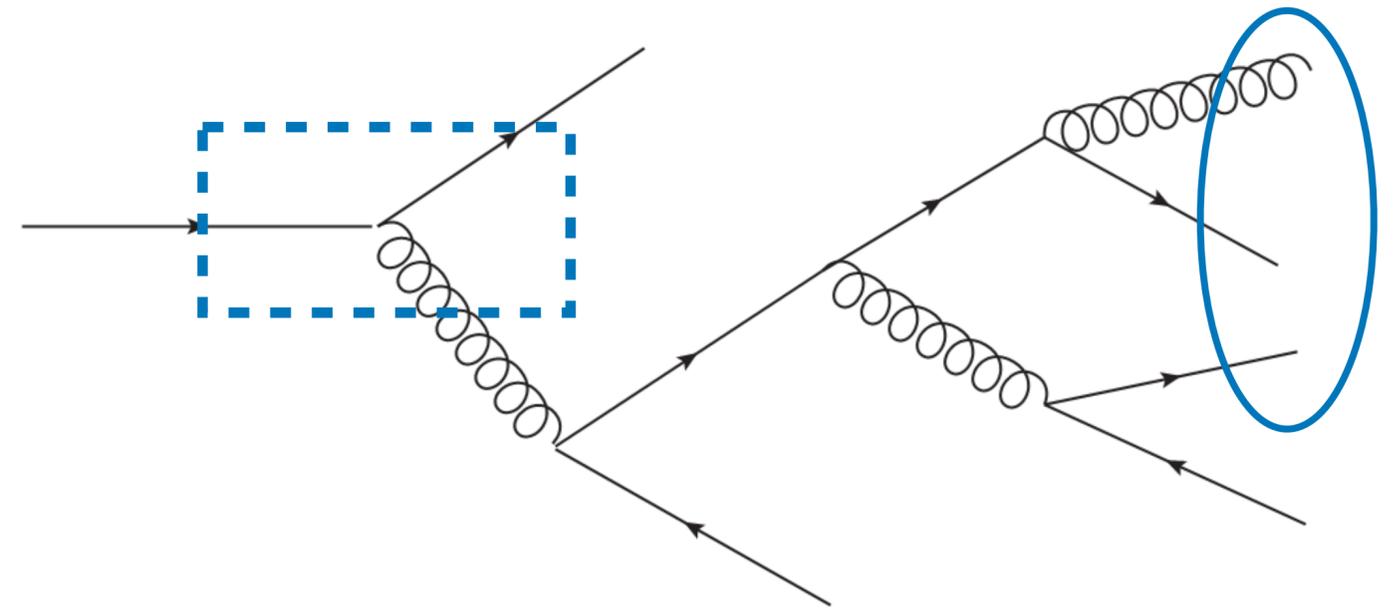


# Proton-Proton collisions

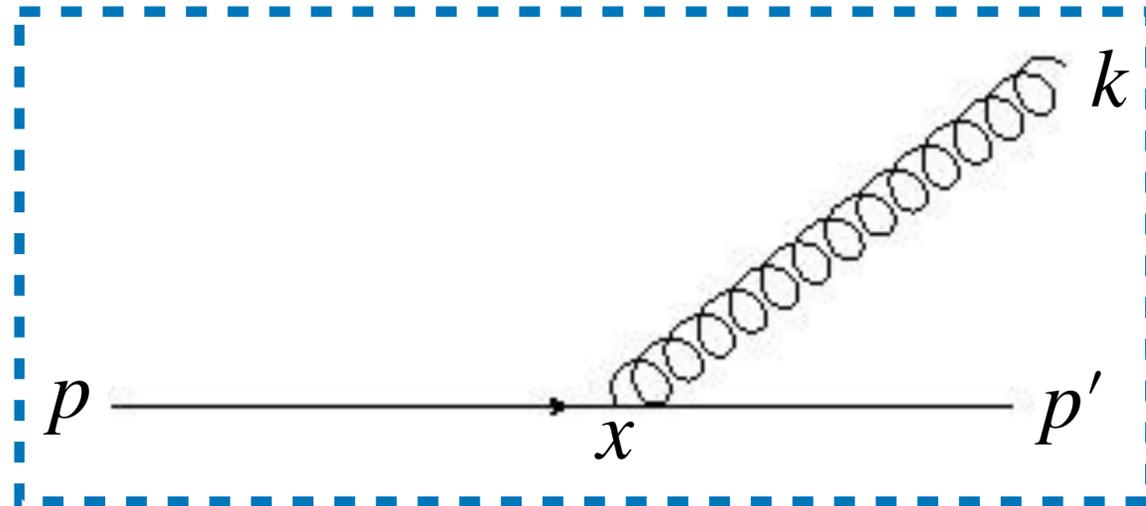


**Gluonstrahlung**

# Proton-Proton collisions

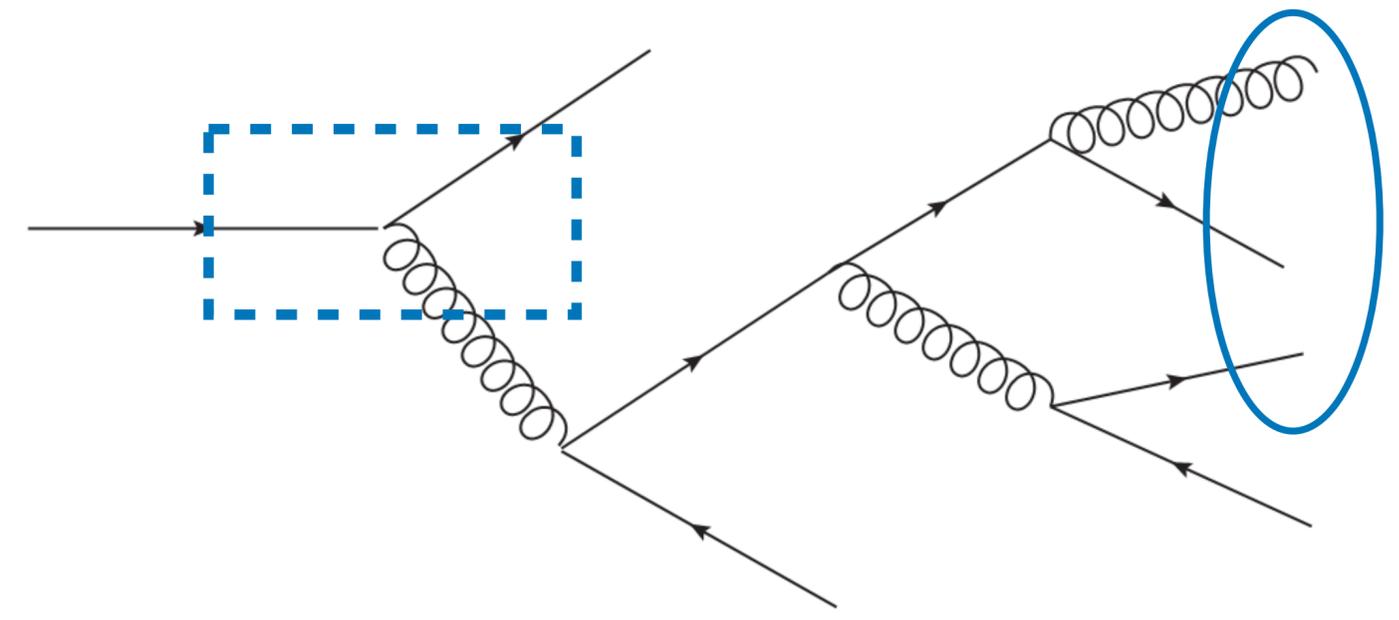
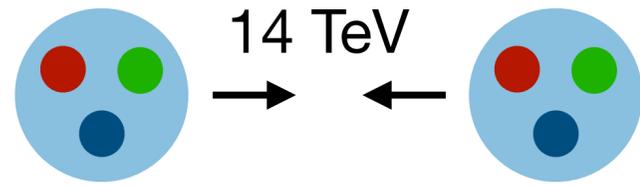


# Parton Shower

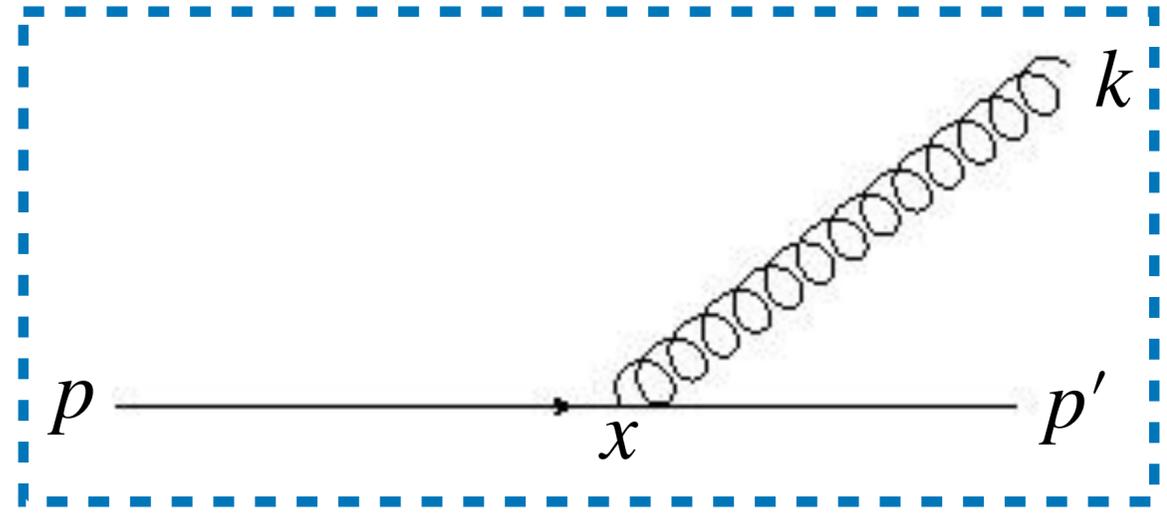


# Gluonstrahlung

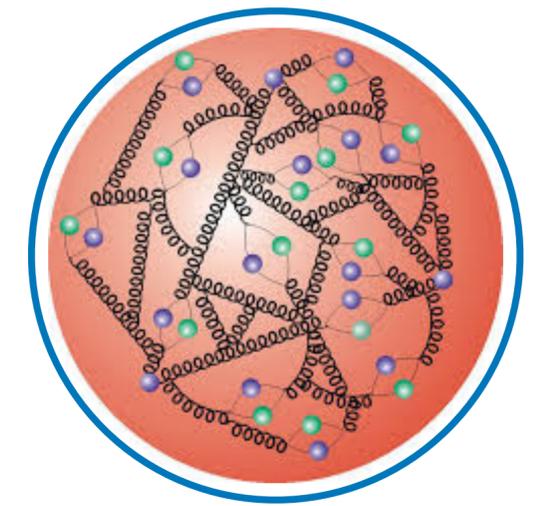
# Proton-Proton collisions



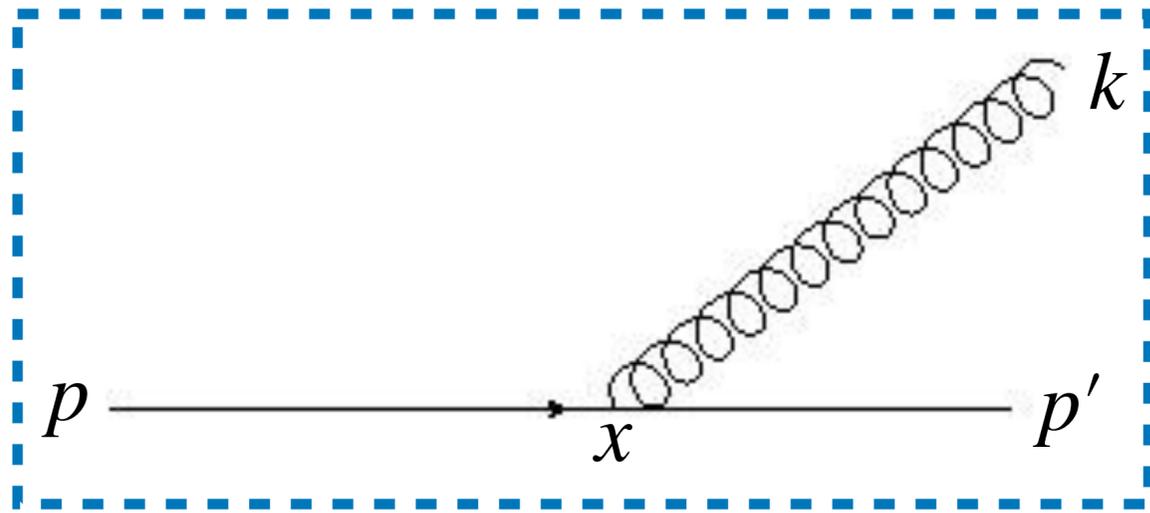
# Parton Shower



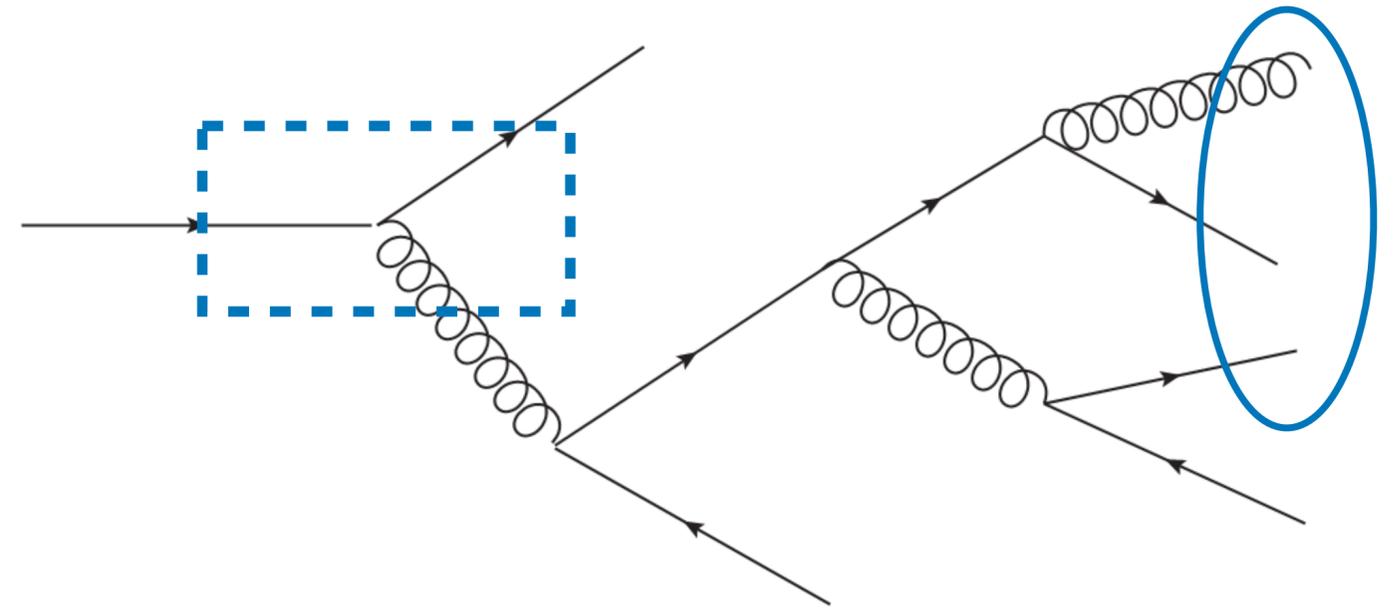
# Gluonstrahlung



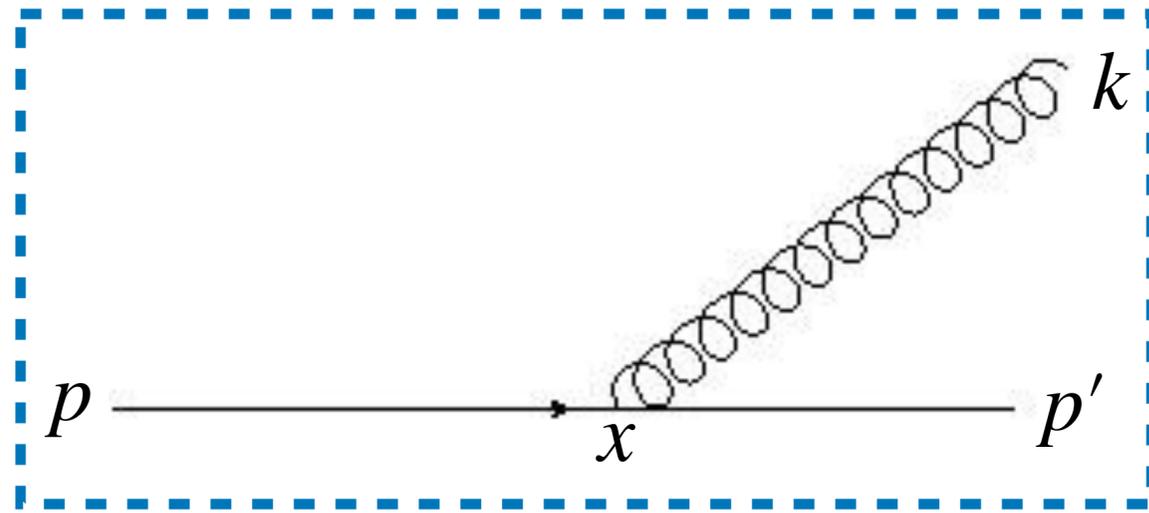
# Hadronization



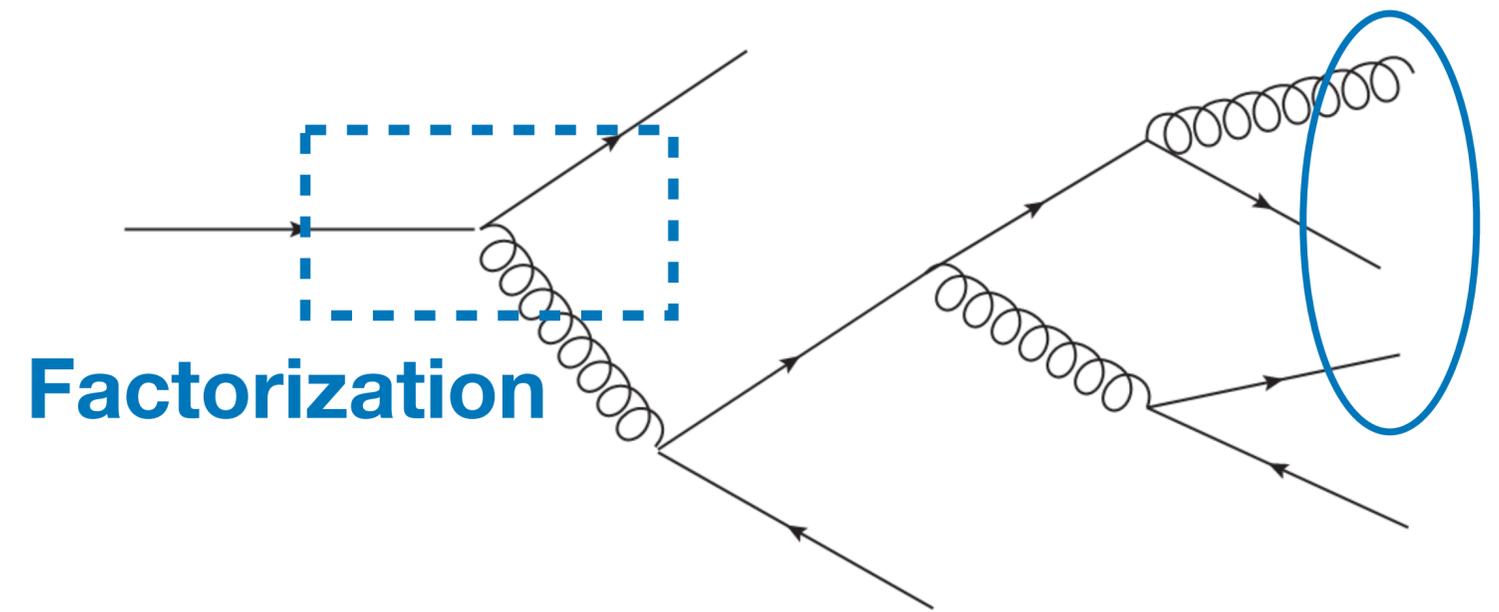
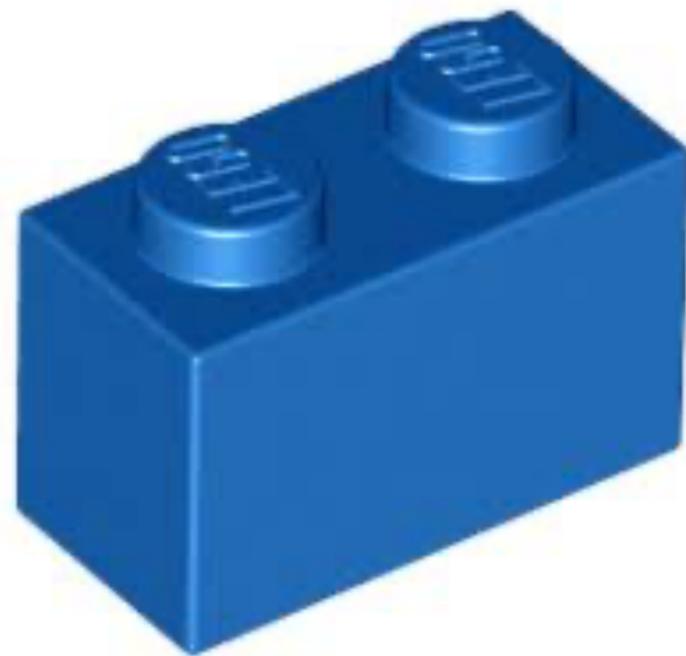
**Gluonstrahlung**



**Parton Shower**



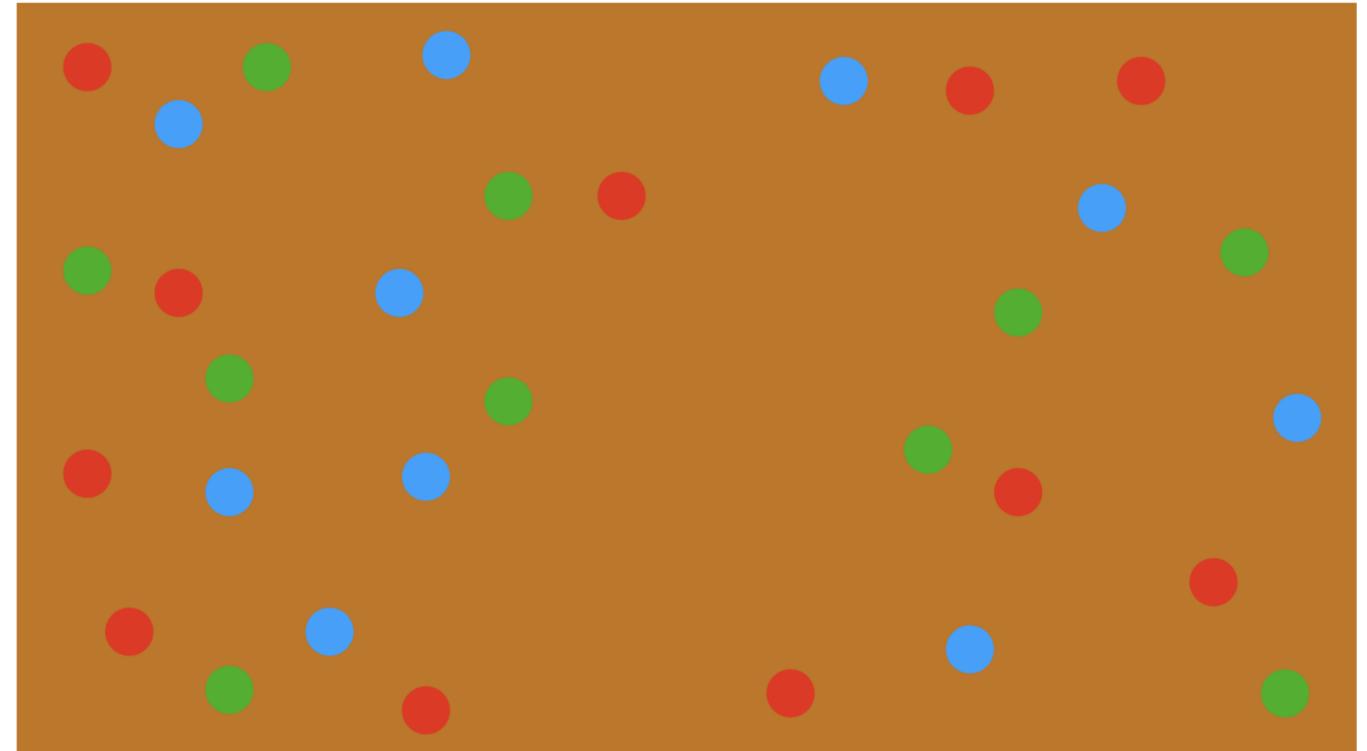
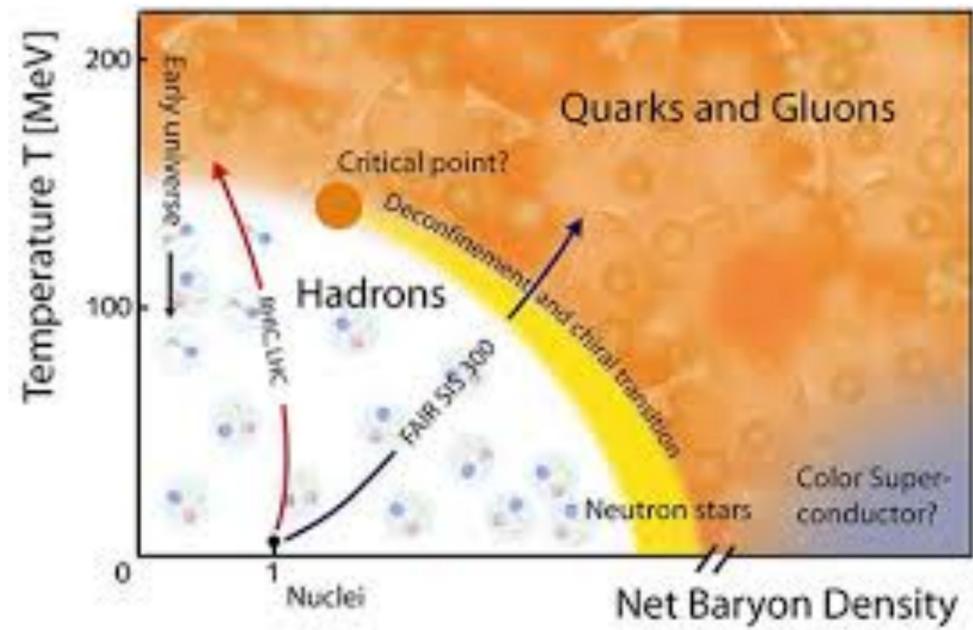
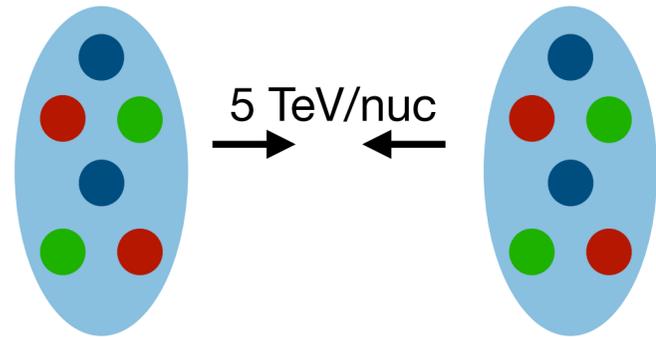
**Gluonstrahlung**

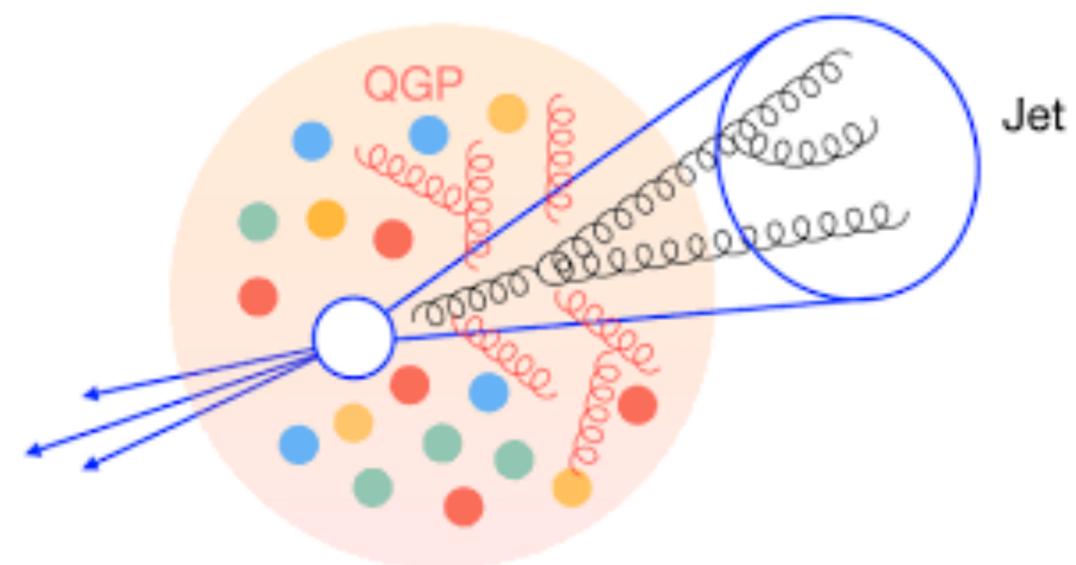
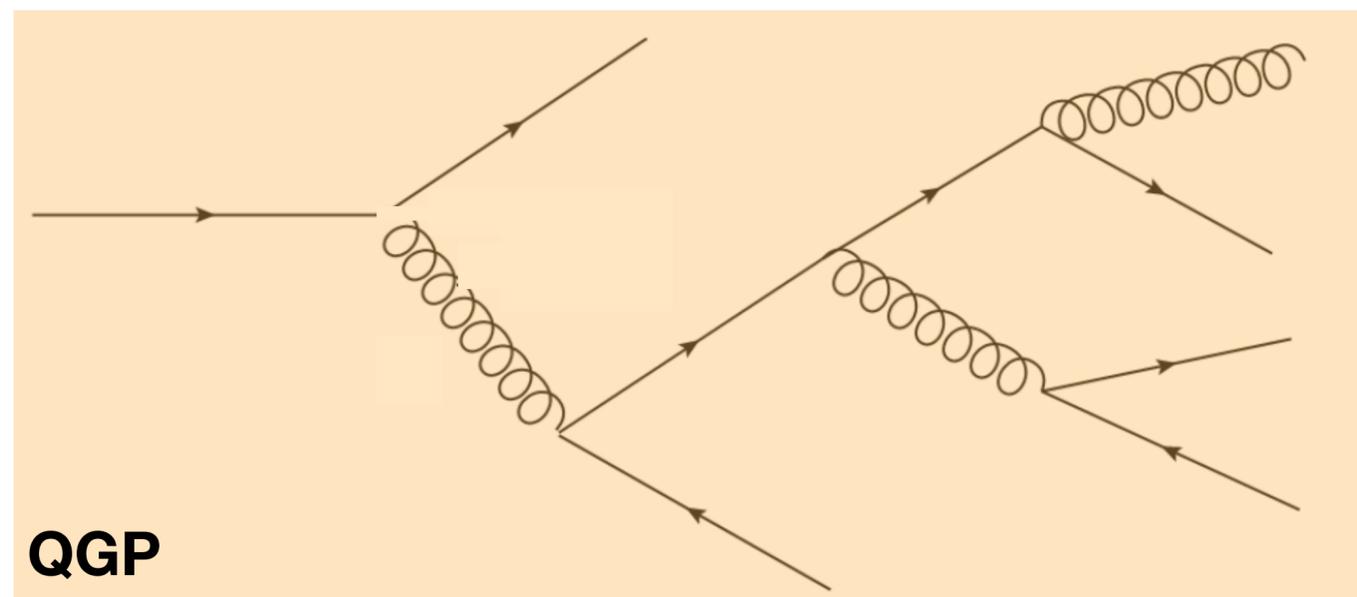


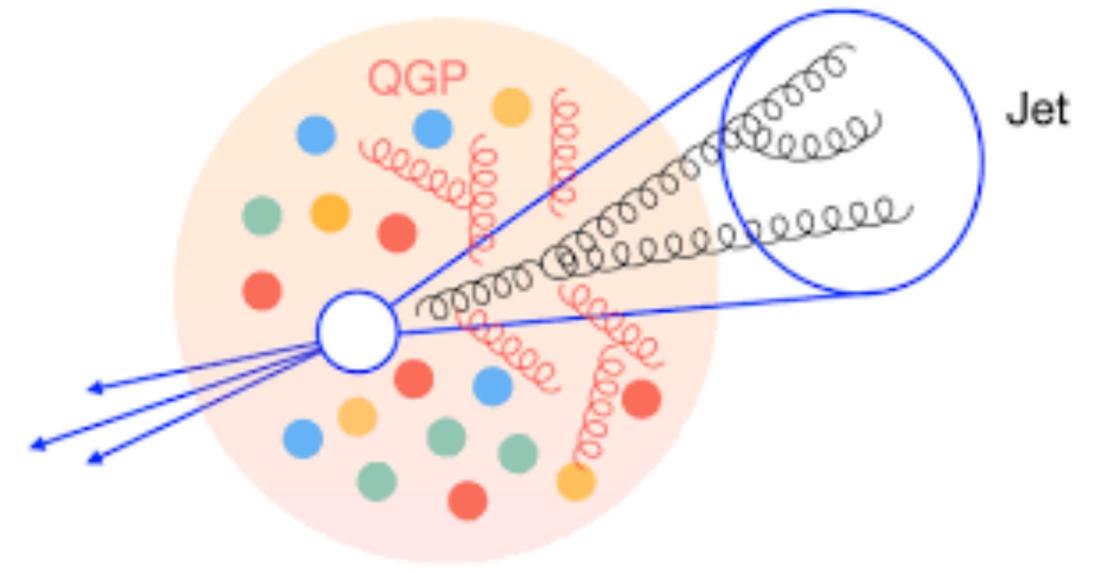
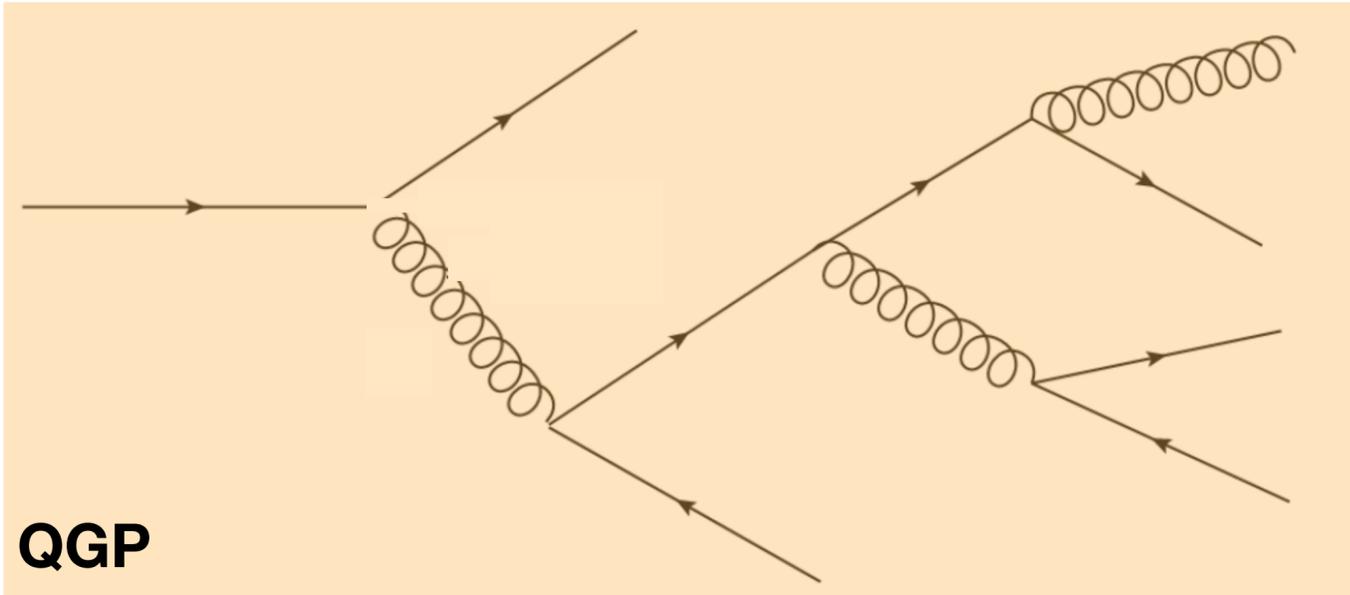
**Parton Shower**



# Heavy-Ion collisions

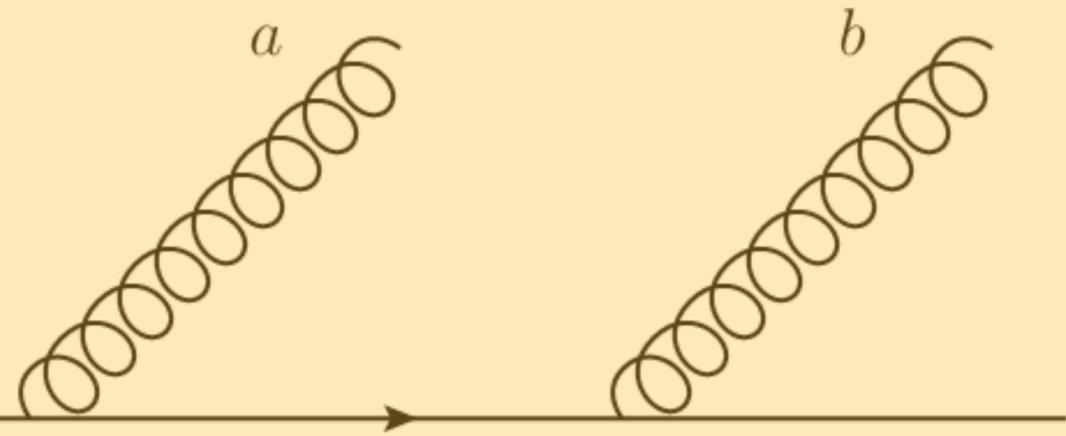




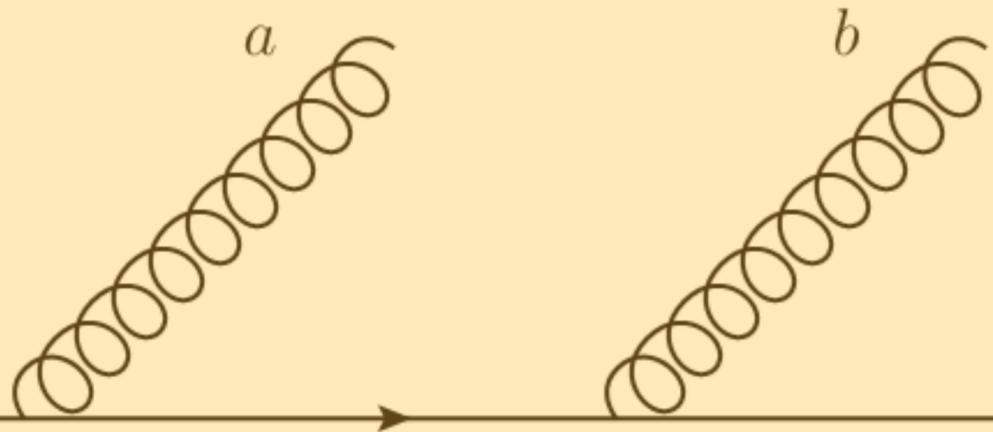


**Does Factorization  
still hold?**

**QGP**

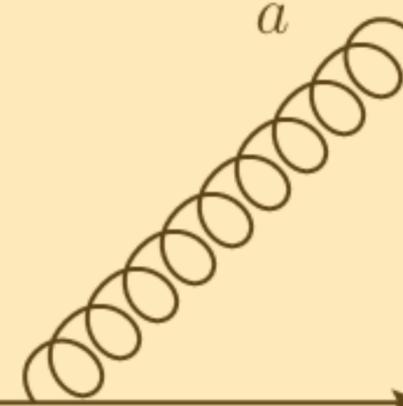


**QGP**



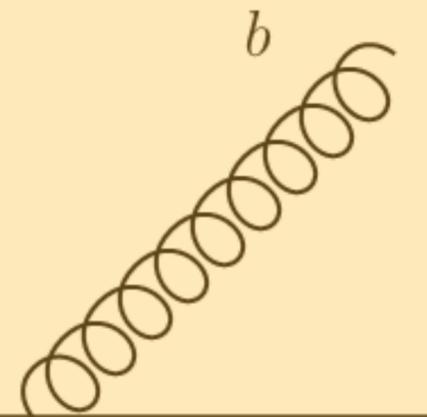
**=**

**QGP**

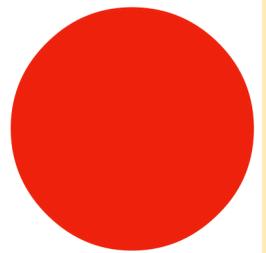
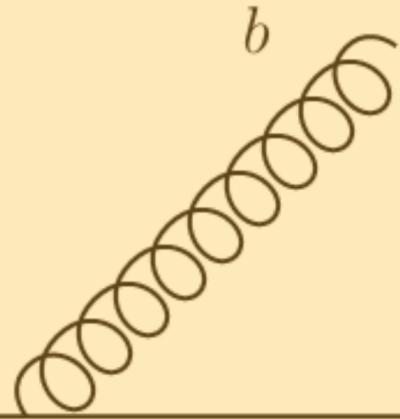
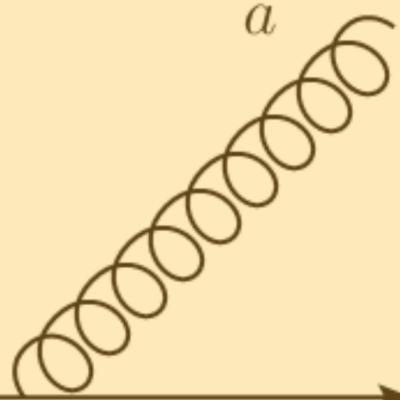


**×**

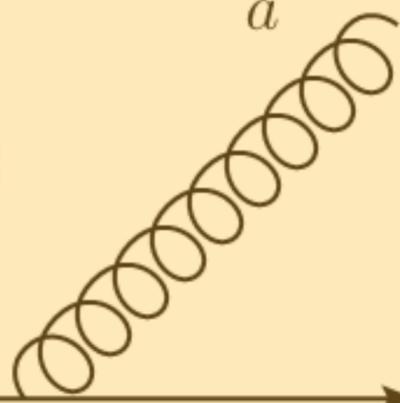
**QGP**



**QGP**

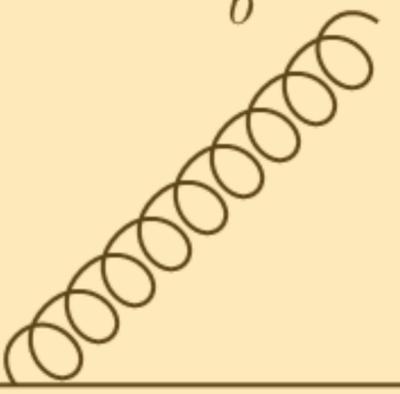


*a*



**QGP**

*b*



**Thank you!**