

# **Synergies between LHC and EIC for quarkonium physics**

Monday, 8 July 2024 - Friday, 12 July 2024

ECT\*

## **Book of Abstracts**



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## **Experimental review on quarkonium production at the LHC**

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## **Legacy of HERA: Quarkonium production at ZEUS and H1**

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**Morning 1 / 3**

## **Theory review of quarkonium production**

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## **Advance in potential-NQRCD studies for quarkonium production**

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## **NLO inclusive $J/\psi$ photoproduction at large $p_T$ from HERA to the EIC**

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## **NRQCD in Pythia**

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## **Collinear Factorization: PDFs, massive schemes, resummations, and quarkonia**

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## **Nuclear PDFs and quarkonia**

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## **From BFKL to Shock wave and CGC in quarkonium production**

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## **Questions for the day**

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## **Round tables (1h45)**

Global analysis incl. photo and hadroproduction  
Extraction of PDFs  
Realm of Fragmentation Functions

**Morning 3 / 17**

## **Experimental results on exclusive, diffractive and diffractive dissociative quarkonium production at the LHC**

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## **Odderon and exclusive quarkonium production**

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## **Inclusive photoproduction of quarkonium at the LHC via UPCs**

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## **DPS, TPS and MPI in quarkonium production**

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## **DPS in quarkonium hadroproduction and photoproduction**

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## **Gluon TMDs in di-J/psi hadroproduction**

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## **Experimental results on double J/ψ hadroproduction**

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## **Azimuthal asymmetries in J/ψ + jet at the EIC**

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## **Spin asymmetries in (semi-)inclusive processes from the LHC to EIC**

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### **Quarkonium-shape functions**

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### **Quarkonium production and TMDs in MG5**

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### **Spin asymmetries in quarkonium production**

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### **LHCSpin**

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### **Questions for the day**

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### **Quarkonium production and TMDs**

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## **Questions for the day**

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## **Asymmetric collisions in Madgraph**

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## **Color reconnection and MC involving quarkonia**

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## **Exclusive quarkonium productions: NLO effects, QCD evolution and resummation**

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## **Discussion on HL-LHC quarkonium prospects in pp collisions**

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## **HL-LHC quarkonium prospects in pA/AA collisions**

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**Morning 4 / 40**

## **ePIC and quarkonia**

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## **Review on excited quarkonium photoproduction**

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## **Photoproduction in Madgraph**

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**Afternoon 5 / 43**

## **Synergies EIC-LHC for TMD studies (with quarkonia)**

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## **Complementarity EIC-LHC for diffractive / exclusive studies (with quarkonia)**

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## **Complementarity EIC-LHC for heavy-ion studies (with quarkonia)**

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## **Coffee break**

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## **NLOAccess: HO, Pythia and diffractive inclusive production**

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## **Round tables (1h)**

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## **Questions for the day**

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## **Xfitter and quarkonia**

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## **Round table on simulation needs and theory tools**

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## **Prospects for isolated quarkonium studies**

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## **Questions for the day**

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## **Closing & QaT2025 plan**

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## **Welcome address**

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## **Quarkonium, PDFs and xFitter**

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