

Hard probes results from the ATLAS experiment

SASHA MILOV



מכון ויצמן למדע

WEIZMANN INSTITUTE OF SCIENCE

FOR THE ATLAS COLLABORATION

ATLAS
EXPERIMENT

ATLAS results

Initial stage of the collisions with EW bosons

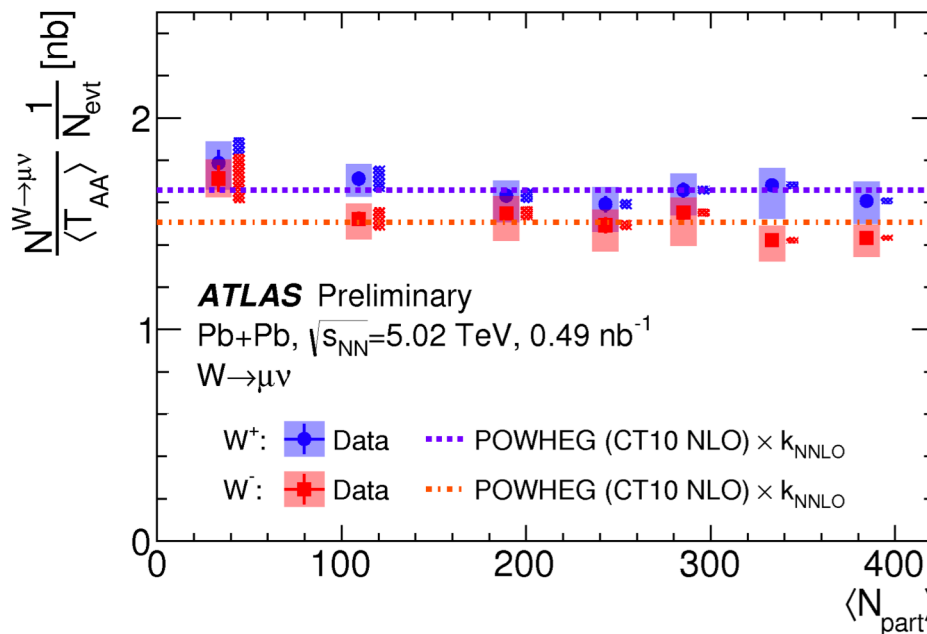
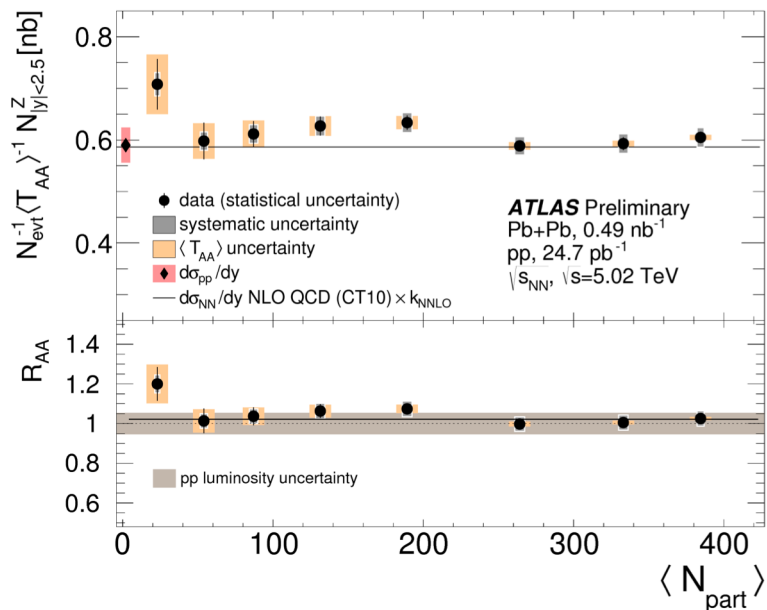
Quarkonia and open heavy flavor results

Jet energy loss: Jet suppression
 Jet fragmentation
 Photon-jet correlation
 Photon-jet tagging
 Jets in different systems

Searching for the QGP in small systems

Photonuclear in UPC and non-UPC collisions

Electroweak bosons in Pb+Pb



W & Z boson yields (muons) in 5.02 TeV Pb+Pb data

Statistics improved by a factor of four w.r.t. Run 1

Yield/ $\langle T_{AA} \rangle$ are approximately flat vs. N_{part}

W^+ yields are 10% larger comparing to W^- due to isospin effects

Data consistent with POWHEG scaled to NNLO accuracy

Wednesday

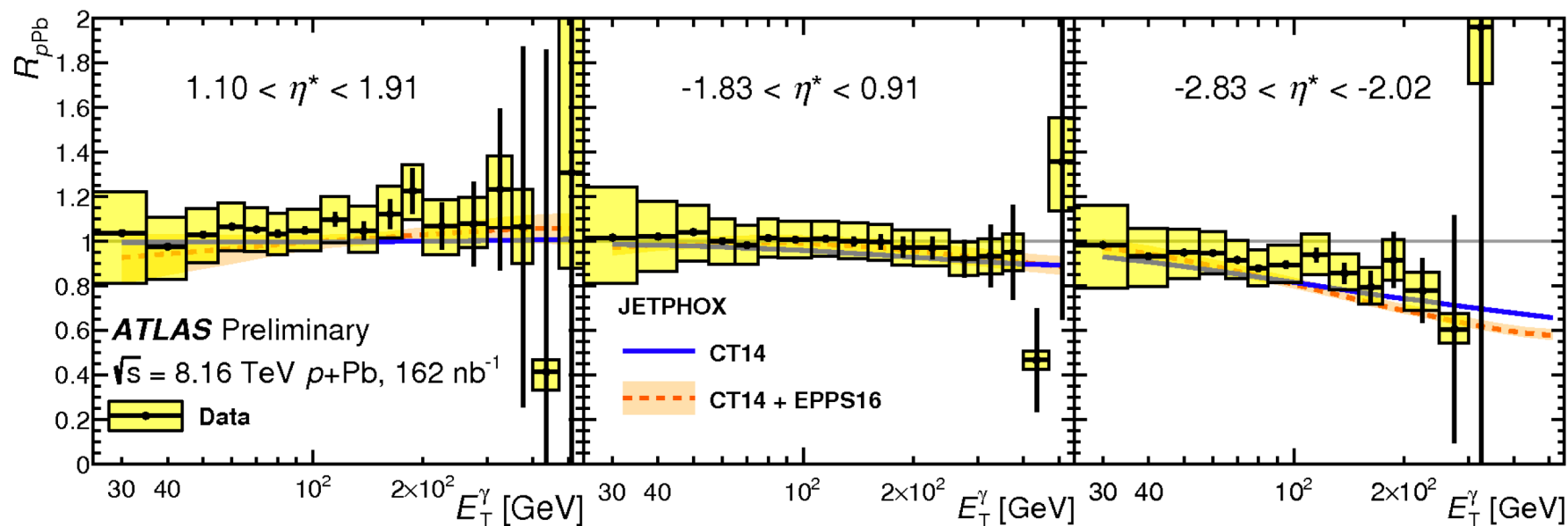
09:00	Towards a Neural Network determination of nuclear p...	Novel tools and observables for jet physics in heavy-ion...	Quarkonium measurements...	Ms Zhen Liu	Probing heavy ion collisions with photons at low and ...	
	nPDF studies with electro...	Jet substructure...	Xin-Nian Wang	Quarkonium production ...	Markus Kohler	PHENIX measurement of direct photons radiation fr...
	Measuring electroweak...	Jet substructure...	Di Arsal Sarkar	Markus Fasel	Quarkonium production in ...	Possible thermal ph... Akihiko Mameda
10:00	ATLAS Probing medium-in...					
	Coffee break					
	Aix-Les-Bains, Savoie, France 10:20 - 10:45					
11:00	Probing nuclear PDF...	Confronting jet quenching with jet grooming: groom...	Detailed studies of prompt J/ψs...	Batoul Dlab	PHENIX measurements...	Axel Drees
	Constraints on nuclear parton ...	Inclusive jet measurements in pp and P...	Georg Wolschin	Spectroscopy in the quark...	Jet and photon pro...	Martin Spousta
	Impact of CMS dijet...	Probing heavy ion collisions using quark and gluon jet ...	Jaebeom Park	Synchrotron radiation a...	Measurement of the ...	Alberto Caliva
12:00	Probing the high-x content of the nuclei in the fixed-ta...	A step towards tagging of quench...	Yi Chen	Heavy-flavour production in the SACOT-mT scheme	Measurement of the ...	Alberto Caliva
	Identified particle pro...	Jet substructure modifications in a QGP fro...	Charm, bottom, and quarkonia cross sections f...	Low-mass di-lepton meas...		
	Lunch					
13:00	Aix-Les-Bains, Savoie, France 12:25 - 13:45					
14:00	Free time - excursion					
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16:00						
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ATLAS-CONF-2017-010

ATLAS-CONF-2017-067

Jakub Kremer

Photons in $p+Pb$



Inclusive prompt photons in $p+Pb$ collisions at 8.16 TeV

At forward and central rapidity, R_{pPb} consistent with unity

$R_{pPb} < 1$ for $\eta^* < -2$ due to isospin effects

Comparison to JETPHOX with nPDF from EPPS16, nCTEQ15 are given

Provides information for global nPDF analysis

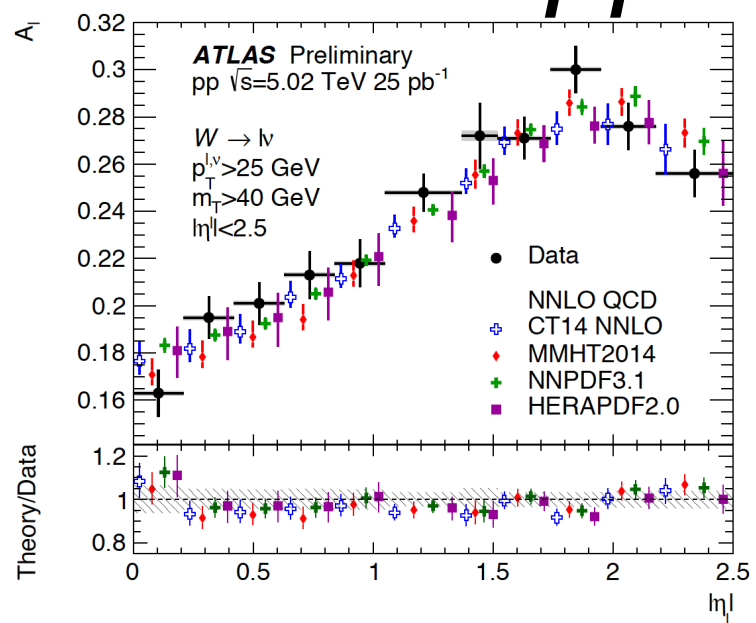
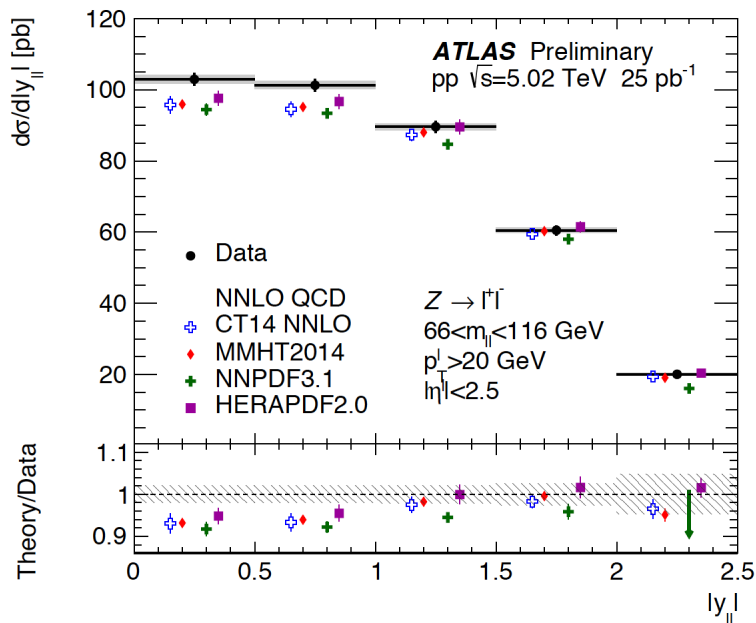
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ATLAS-CONF-2017-072

Martin Spousta

Electroweak bosons in pp



$$\sigma(W^+) = 2266 \pm 9 \text{ (stat)} \pm 29 \text{ (syst)} \pm 43 \text{ (lumi)} \text{ pb}$$

$$\sigma(W^-) = 1401 \pm 7 \text{ (stat)} \pm 18 \text{ (syst)} \pm 27 \text{ (lumi)} \text{ pb}$$

$$\sigma(Z^0) = 374.5 \pm 3.4 \text{ (stat)} \pm 3.6 \text{ (syst)} \pm 7.0 \text{ (lumi)} \text{ pb}$$

New baseline in pp @ 5.02 TeV with 2.4% accuracy on the cross section

Significant reduction in the dominant systematics uncertainty (lumi)

A 10 times larger sample is also available

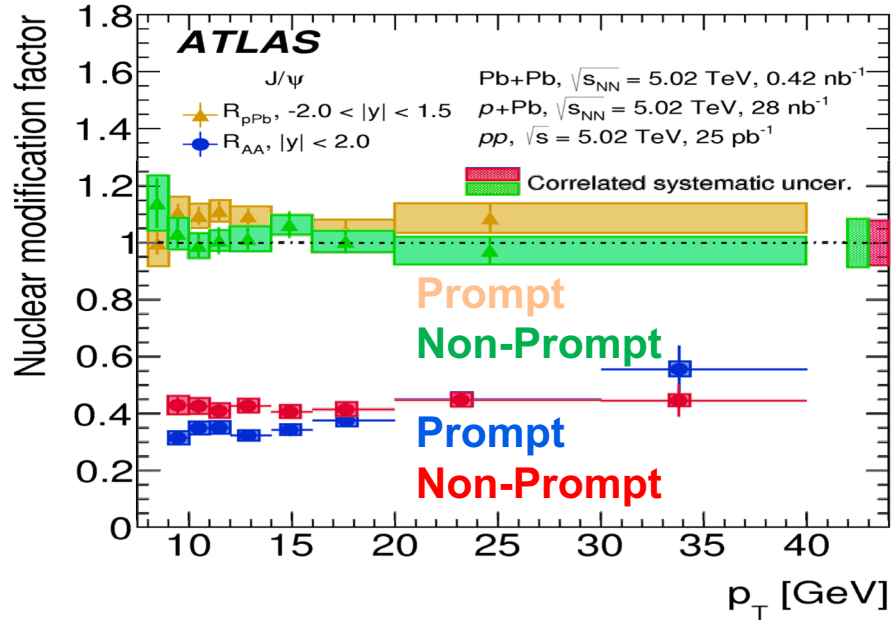
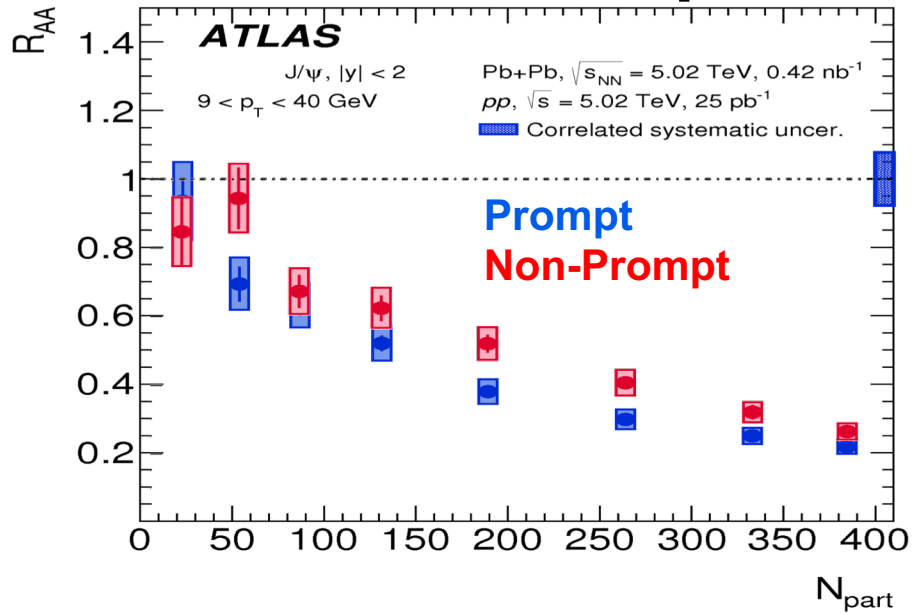
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to be submitted

Jakub Kremer

Quarkonia production in Pb+Pb



High statistics measurement of prompt and non-prompt J/ψ

Strong centrality dependence in Pb+Pb for both components

p_T dependence is different for prompt and non-prompt in Pb+Pb

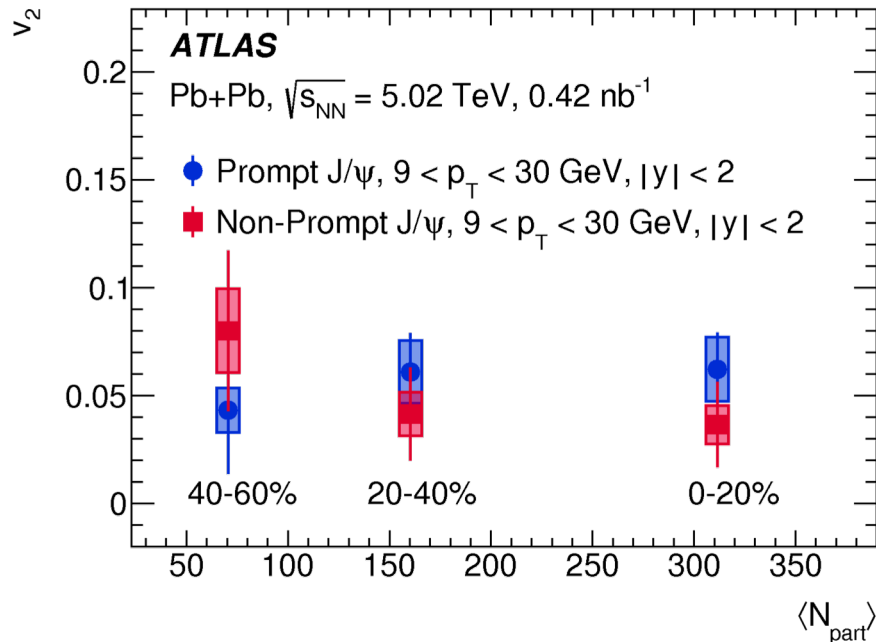
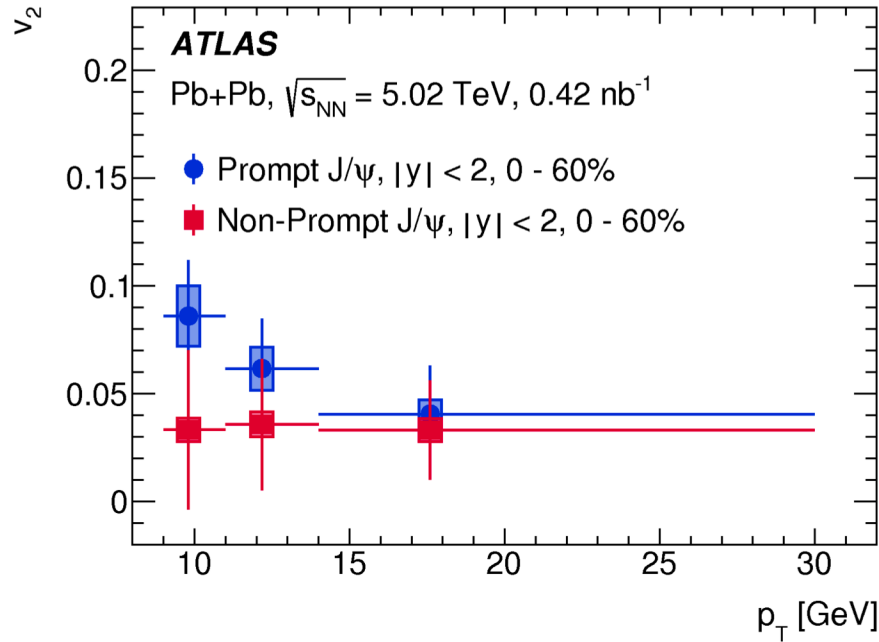
R_{AA} looks consistent with other hadronic probes

Comparison to the models will be given in the talk

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	Deep inelastic s...	Henri Härmänen	Charged particle n...	Measurements of open bottom hadron production ...		Low-pT e+e- pair produc...	Dr Shuai Yang
	Impact parameter dependent JIMWLK evolution meets H...		Charged-particle production in P...	Studies of beauty suppression via ...	Hao Qiu	Coherent J/psi photo-production in Pb-Pb collisi...	
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	Measurement of long-ran...	Adam Trzpek	Systematic studies of d...	Measurement of D-meson scattering and limits on ax...	Fabrizio Grosa	Evidence for light-by-light scattering and limits on ax...	
12:00	2+1D simulations of pre-equilibrium stage with QC...		Effects of jet-medium interactions on angular cor...	Charm v2 is more hydrodynamic th...	Harjit Lu	Ultra-peripheral-collision studies in the fixed-target ...	
	Transport of Heavy Quarks Across Glasma		Jet-associated deuteron production in pp collisions...	Event-multiplicity and event-shape dependence of open...		Observing the Higgs boson in ultraperipheral heavy-ion...	
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	Energy loss and modification of photon-tag...		Sorting out the J/psi energy loss...	Effects of drag induced radiation and multi-stage e...		Bayesian extraction of ...	Ron Soltz
	Probing jet quenching	Dr Shuyi Wei	Higher-order corrections to jet quenching	Extract heavy quark transport...	Wenbo Ke	Hybrid Hadronization	Rainer Fries
15:00	Measurement of the semi-le...	Dr Nihar Sahoo	Nuclear modification of full jets and jet structure in re...	Measurements of heavy-fla...	Zuman Zhang	Heavy flavor energy loss from AdS/CFT: A novel diff...	
	Jet-induced medium response and v-jet fragme...		Jets in non-equilibrium quark-gluon plasma	Studies of Heavy-Flavor J/psi Using D0-Hadron Correlat...		Bottomonia Suppression from AdS/CFT	
	Photon-tagged jet fragmentati...	Kiara Tatar	Automated discovery of je...	ALICE results on quarkonium production in ...		Introducing HJING++: t...	Mr Gábor Biró
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	Jet energy loss in a flowing plasma		Event-plane dependent away-side jet-like cor...	Parton energy loss effect on Z+jet production in high-en...		Quarkonium production as a function of charged particl...	
17:00	Jet quenching parameter in an ex...	Bin Wu	Transverse Momentum Bal...	Scaling properties o...	Yuri Mironov	Open-heavy-flavour production and elliptic flo...	
	Dynamical quenching weights in an expanding m...		The LPM effect in a partonic transport approach	Hadron/jet measurements in Pb-Pb co...	Jaimie Norman	Heavy flavor production...	Mirka Dumančić
18:00	Data-driven constraints on ...	Tianyu Dai	Finite formation time effects for ...	Using di-hadron co...	Hyeonjoong Kim	PHENIX measurements of heavy quark anisotropic fl...	
	Poster Session: Poster session (wine & cheese)						
19:00							

Quarkonia flow in Pb+Pb



Centrality, p_T and rapidity dependencies of the flow for prompt and non-prompt J/ψ components

Some differences are seen in the p_T dependences

Consistent with the regeneration scenario of the J/ψ production

Different scenario for the origin of charm and bottom anisotropies

Tuesday

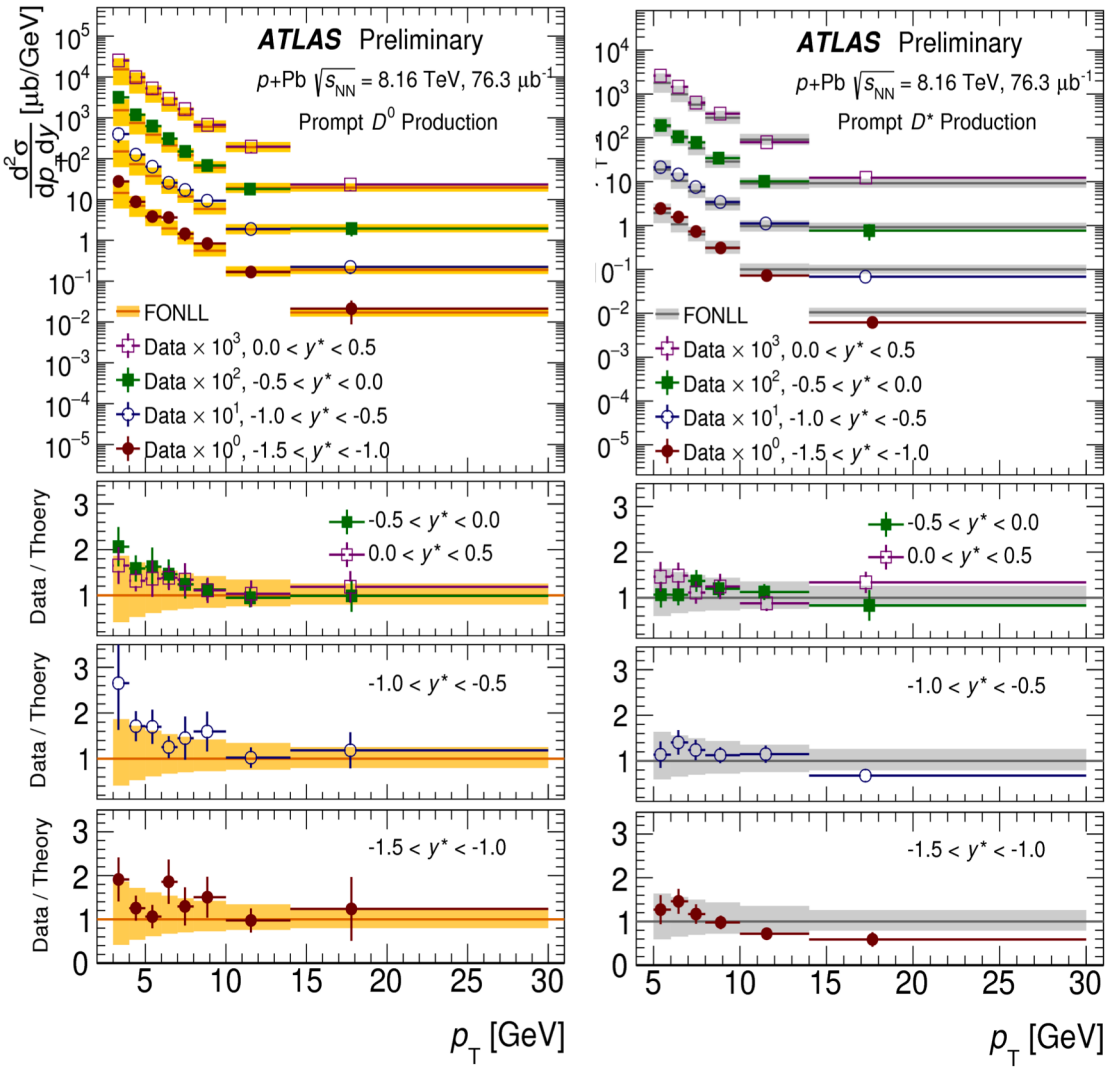
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	Energy loss and modification of photon-tag... Jasmine Brewer	Sorting out energy los... Jasmine Brewer	Effects of drag induced radiation and multi-stage e... Ron Soltz	Bayesian extraction of... Ron Soltz
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arXiv:1805.05198

Sebastian Tapia A.

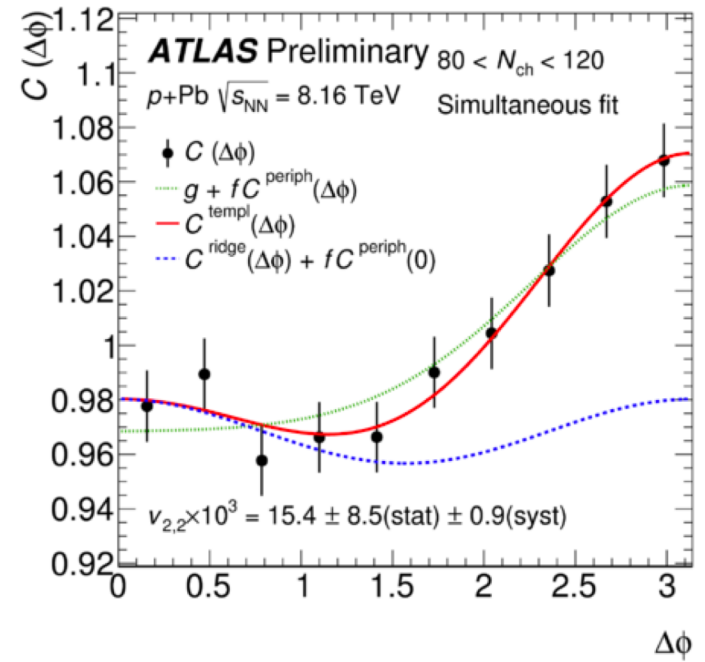
D^0 and D^* mesons in $p+Pb$

Tuesday



First results on D meson production from ATLAS

Measurements are done in wide momentum range and in slices of rapidity.



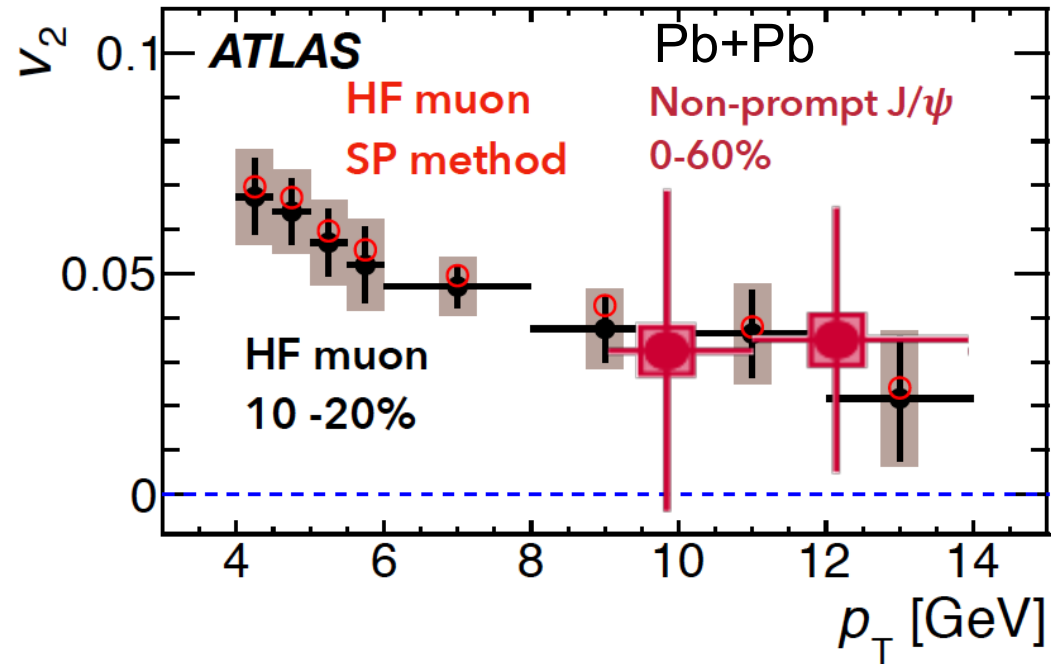
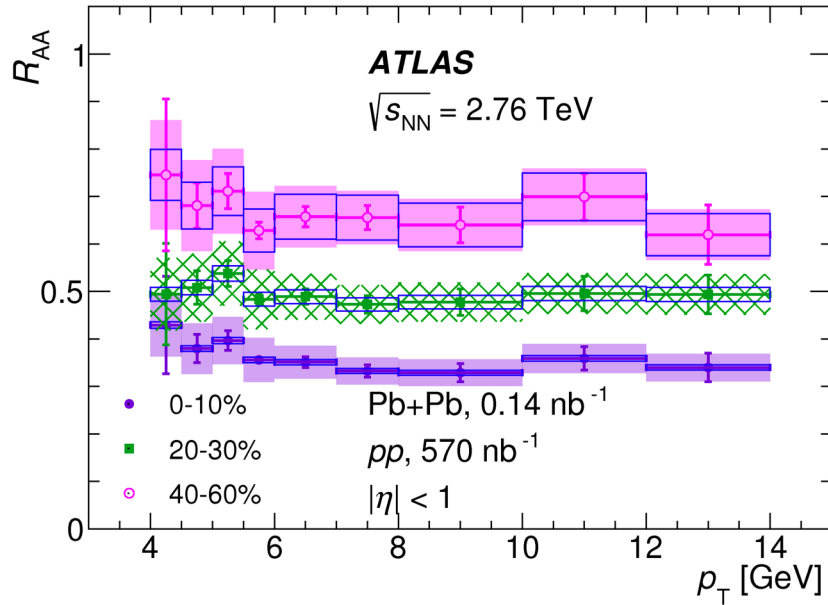
The D – hadron correlations in N_{ch} intervals are consistent with muon results

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ATLAS-CONF-2017-073

Mirta Dumancic

Heavy Flavour muons in Pb+Pb



Single muons coming from HF decays in Pb+Pb

Yields extracted and compared to results of other experiments and theories

Azimuthal anisotropies are measured in 2.76 TeV Pb+Pb

Tuesday

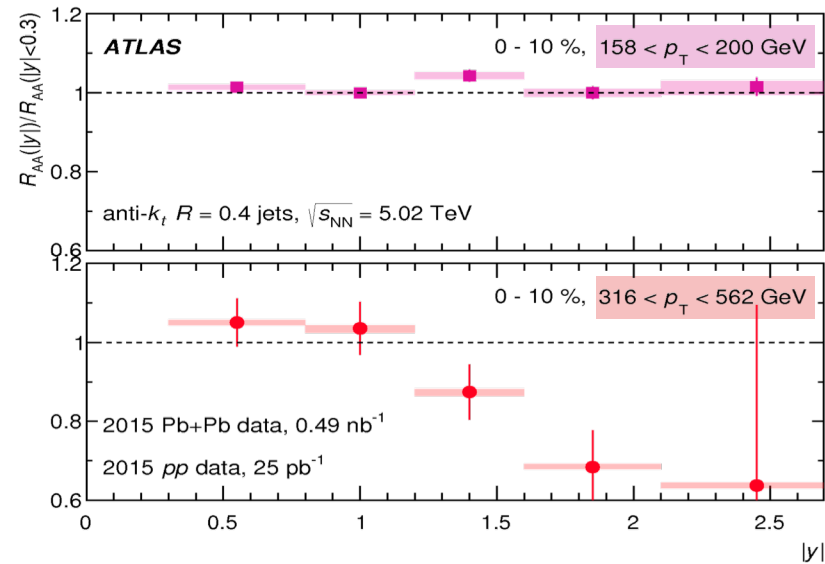
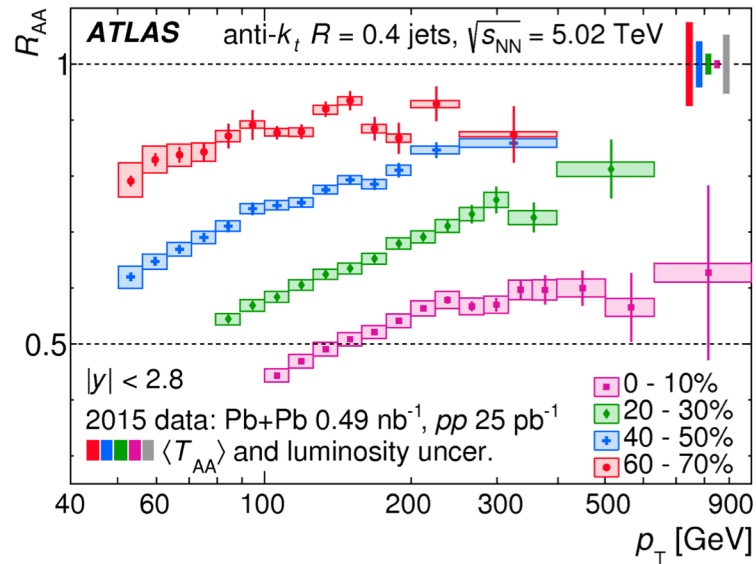
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15:00	Measurement of the semi-...	Dr Nihar Sahoo	Nuclear modification of full jets and jet structure in re...	Measurements of heavy-fla...	Zuman Zhang	Heavy flavor energy loss from AdS/CFT: A novel diff...	
	Jet-induced medium response and v-jet fragme...		Jets in non-equilibrium quark-gluon plasma	Studies of Heavy-Flavor J-Using D0-Hadron Correlat...		Bottomonia Suppression from AdS/CFT	
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	Isolated photon + hadron and jet correlation in p-Pb ...		Hard probe radiative energy loss beyond soft-gluon ap...	PHENIX results on ...	Megan Connors	Charmonia production in large and small systems m...	
	Jet energy loss in a flowing plasma		Event-plane dependent away-side jet-like cor...	Parton energy loss effect on Z+jet production in high-en...		Quarkonium production as a function of charged particl...	
17:00	Jet quenching parameter in an ex...	Bin Wu	Transverse Momentum Bal...	Scaling properties o...	Yuri Miranikov	Open-heavy-flavour production and elliptic flo...	
	Dynamical quenching weights in an expanding m...		The LPM effect in a partonic transport approach	Hadron+jet measurements in Pb-Pb co...	Jame Norman		ATLAS
	Data-driven constraints on ...	Tianyu Dai	Finite formation time effects for ...	Using di-hadron co...	Hyunjoong Kim	PHENIX measurements of heavy quark anisotropic fl...	
18:00							

arXiv:1805.05198

arXiv:1805.05220

Mirta Dumancic

Jet suppression in Pb+Pb



p_T , centrality and η dependencies of jet suppression at 5.02 TeV in Pb+Pb

Good consistency with 2.76 TeV results.

R_{AA} in central collisions flatten at p_T above 200 GeV

Peripheral are still significantly suppressed

More suppression at high- $|y|$ compared to mid-rapidity

Model comparisons will be shown in the talk

Thursday

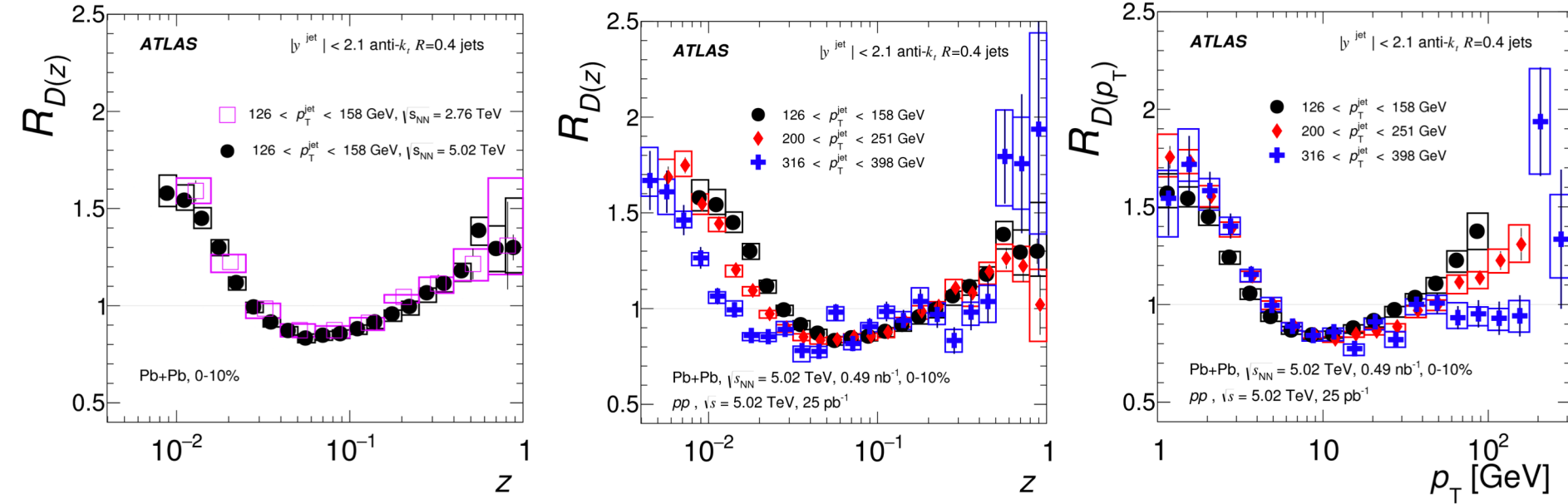
09:00	Toward a unified picture of particle production at all pt	ATLAS	Production of open charm a...	Enhanced hard-probe...	Cristina Bedda
	Multi gluon correlations in the Color Glass Condensat...	Parton Energy Loss in Generalized High Twist Ap...	Measurements of strange and non strange charm pro...	Complete heavy flavor ...	Dr Jin Huang
	Multi-particle correlations an...	Event-by-event jet suppressi...	Charm production...	High-luminosity fixed-target experiments at the LHC	Frederic Fleuret
10:00	Resolving the Partonic Structure of Nuclei through...	TBD	Charm physics in NA61/SHINE	Next generation je...	Songkyo Lee
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	Medium modified jets, soft drop and leading hadrons L...	Universal quark/gluon ratio in medium-induced part...	Charm baryon production L...	DREENA framework: predictions, comparison w...	Elsa Menisno
	Probing spectral properties of the QGP with real-time L...	Measurements of the jet internal sub-structure and L...	Measurements of Λ production in pp ...	First results of PoI Gossiaux EPOSHQ mo...	Guanmin Xie
12:00	First calculation of Λ production in pp ...	Jet structure in integrated EPOS3-HQ approach	Λ production in pp ...	Measurements of heavy-fl...	Rui Xiao
	Understanding wide jet suppression in data through...	Multi-stage jet evolution...	Heavy-flavour production st...	PHENIX results on sy...	Antonio Utes
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14:00	Vacuum-like jet fragmentation in a dense QCD medium				Mr Paul Caucal
	Jet fragmentation and charged particle angular distribution within and around jets in Pb+Pb collisions with ATLAS				Akshat Puri
	Exploring the phase space of jet splittings at ALICE in pp and Pb-Pb collisions using jet shapes and grooming techniques				Nima Zardoshti
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	Future heavy-ion facilities: Electron-Ion Collider (EIC)				Abhay Deshpande et al.
	Future heavy-ion facilities: Fixed-target LHC (AFTER)				Jean-Philippe Lansberg
	Future heavy-ion facilities: LHCFCPC-eh				Max Klein et al.
17:00	Future heavy-ion facilities: FCC-AA				Andrea Dainese
	Round-table discussion: Future of hard probes & heavy-ion collisions				Abhay Deshpande et al.
	Aix-Les-Bains, Savoie, France				
	17:25 - 18:25				

arXiv:1805.05635

Radim Slovak

Jet fragmentation in Pb+Pb

Thursday



Fragmentation functions measured at 5.02 TeV in pp and in Pb+Pb

Centrality and jet p_T^{jet} dependencies of FF modifications

Consistent with 2.76 TeV results: enhancement at low and high z

No p_T^{jet} dependence at high z for jets up to 400 GeV

Soft particles scale with p_T^{jet} consistent with medium effects

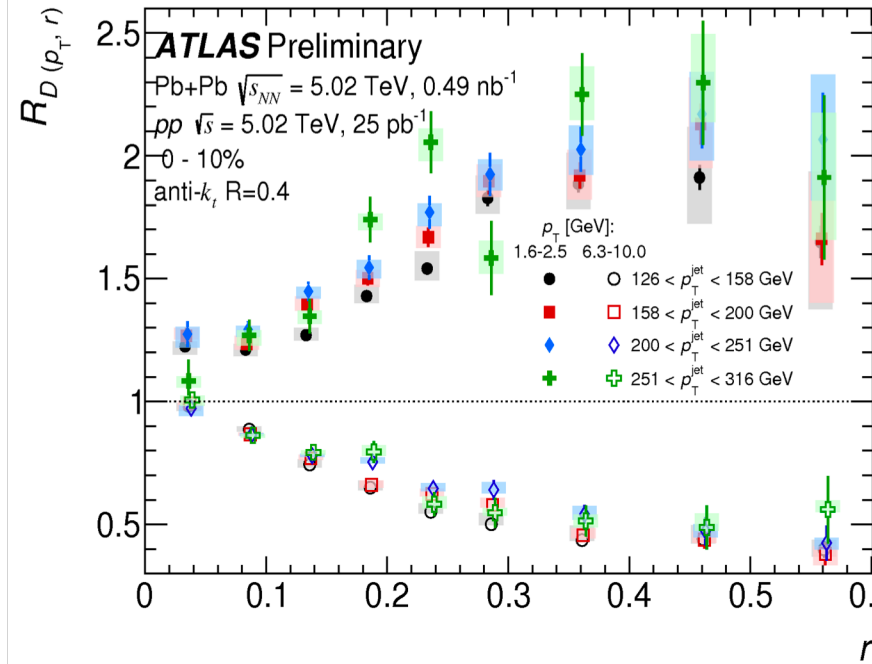
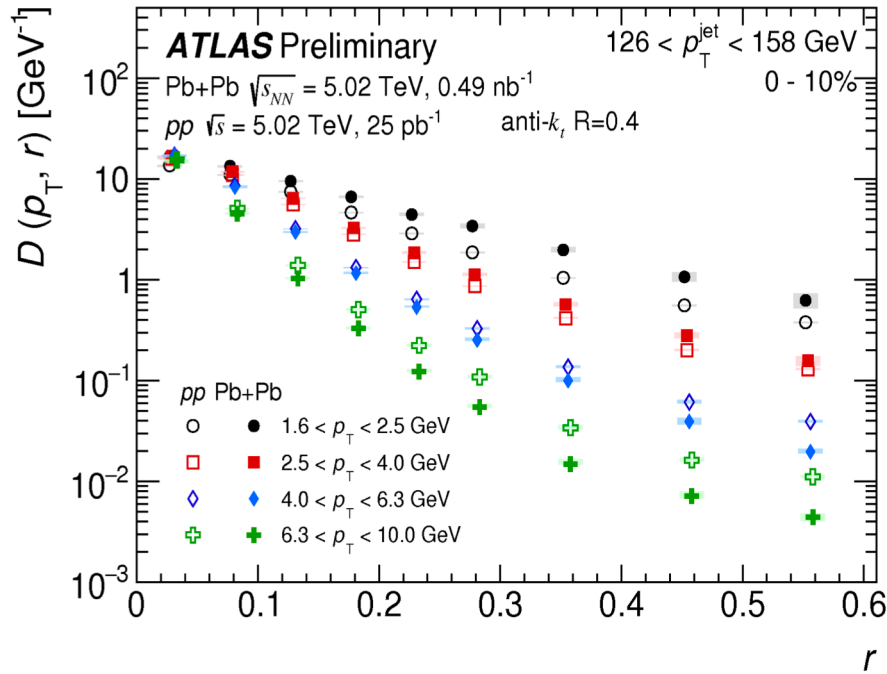
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	Aix-Les-Bains, Savoie, France					17:25 - 18:25

EPJC77 (2017) 379

PRC98 (2018) 024908

Akshat Puri

Fragmentation vs. radius in Pb+Pb



Detailed study of the FF as a function of r , the distance to jet axis

Yield of low- p_T particles increases with increasing jet p_T
 More low- p_T particles are seen at large radii in central

Yield of high- p_T is independent of jet p_T
 High- p_T particles get suppressed at small radii in central

Thursday

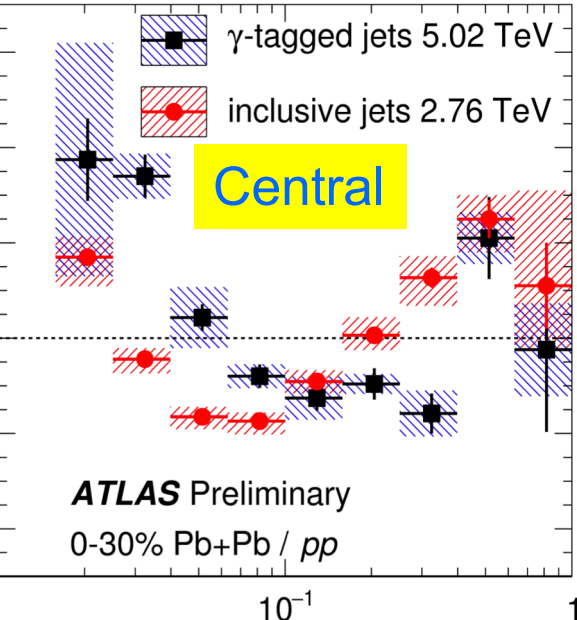
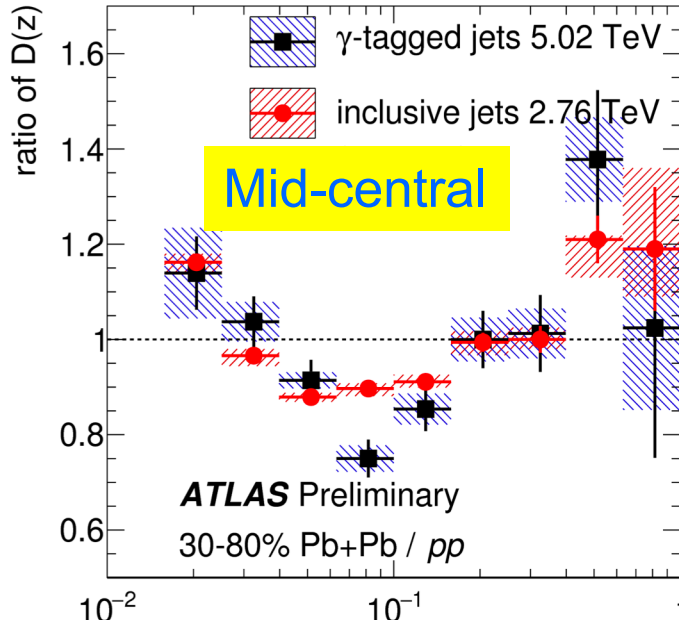
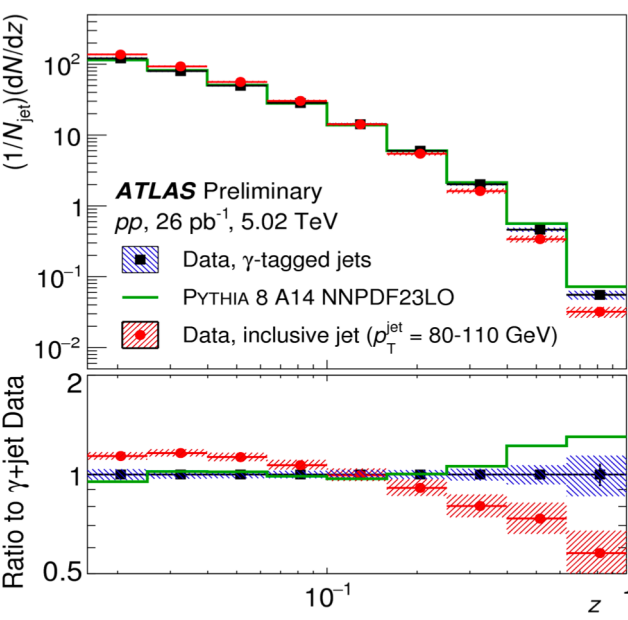
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	Aix-Les-Bains, Savoie, France						
18:00							
	Aix-Les-Bains, Savoie, France						

ATLAS-CONF-2018-010

Akshat Puri

Tagged jets fragmentation in Pb+Pb

Tuesday



Photon tagged jets, balanced in azimuth, enriching quark jet fraction

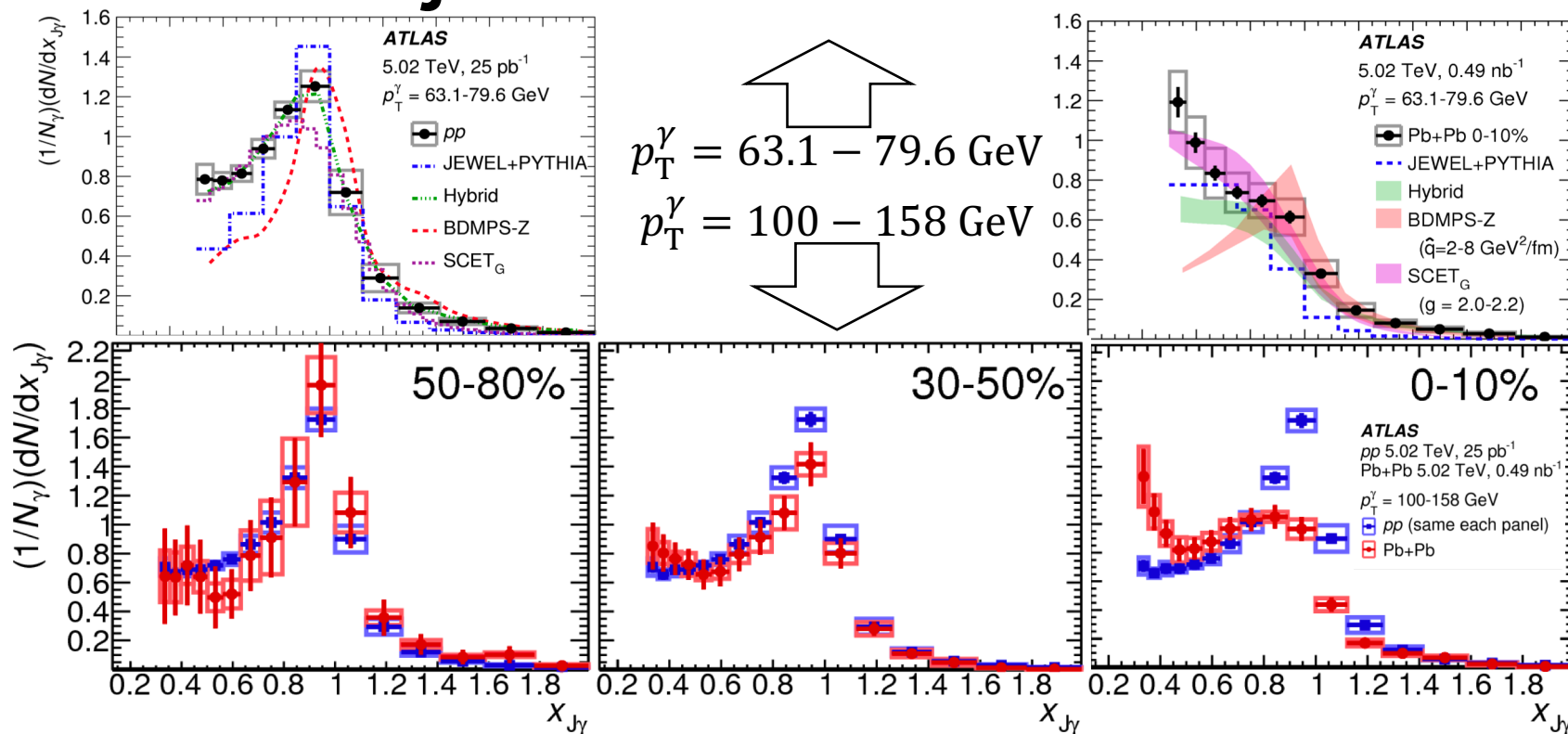
FF taken w.r.t. to reconstructed jet energy, to explore flavor dependence

Fully unfolded for all detector effects

Similar modification pattern in peripheral, flavor dependence in central

09:00	DIS structure f... Guillaume Beuf	ALICE results on the production of charged part... Aurélien Belyaev	PHENIX results on ch... Timothy Rynn	Exclusive Charmonium... Samuel Balm
	Deep inelastic s... Henri Härmänen	Charged particle production in P... Petr Balaž	Measurements of open bottom hadron production... Hui Xiao	Low-pT e+e- pair produc... Dr Shuai Yang
	Impact parameter dependent JIMWLK evolution meets H... Hui Xiao	Charged-particle production in P... Petr Balaž	Studies of beauty production via ... Hao Qiu	Coherent J/psi production in Pb-Pb collisions... Kousik Naskar
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	Coffee break			
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	Forward photon measurements with ALICE... Adam Trzczyk	Constraining energy loss from high-pt azimuthal asym... Nicholas Elsey	Heavy Flavor Azimuthal C... Ramona Vogt	Measurements of photon-photon and photon-nucleu... Ramona Vogt
	Measurement of long-ran... Adam Trzczyk	Systematic studies of d... Nicholas Elsey	Measurement of D-meson... Fabrizio Grossi	Evidence for light-by-light scattering and limits on ax... Adam Trzczyk
12:00	2+1D simulations of pre-equilibrium stage with QCD... Hui Xiao	Effects of jet-medium interactions on angular cor... Hui Xiao	Charm v2 is more hydrodynamic th... Hui Xiao	Ultra-peripheral-collision studies in the fixed-target... Hui Xiao
	Transport of Heavy Quarks Across Glasma... Hui Xiao	Jet-associated deuteron production in pp collisions... Hui Xiao	Event-multiplicity and event-shape dependence of open... Hui Xiao	Observing the Higgs boson in ultraperipheral heavy-ion... Hui Xiao
	Lunch break			
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14:00	PHENIX measurement of direct photon-triggered tw... Hui Xiao	Jet splitting function in the va... Hui Xiao	D-meson production... Michael Peters	Higgs boson suppression in quark-gluon matter... Michael Peters
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18:00	Poster Session: Poster session (wine & cheese)			
19:00				

Photon-jet correlations in Pb+Pb



↑
 $p_T^\gamma = 63.1 - 79.6$ GeV
 $p_T^\gamma = 100 - 158$ GeV
↓

Final results for $x_{J\gamma} = p_T^{\text{jet}} / p_T^\gamma$ at 5.02 TeV, unfolded for all detector effects

$x_{J\gamma}$ is modified compared to pp with increasing centrality

Double peak structure, suggesting large event-by-event loss fluctuations

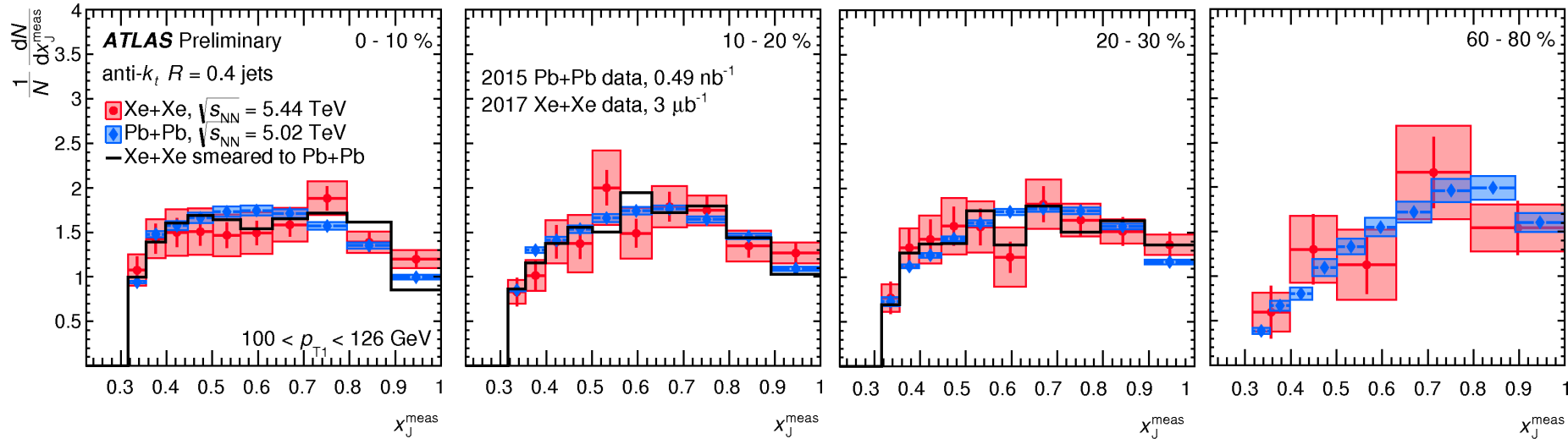
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arXiv:1809.07280

Dennis Perepelitsa

Dijets in Xe+Xe



$x_J = p_T^{\text{subleading}} / p_T^{\text{leading}}$ measured in Xe+Xe collisions at 5.44 TeV as a function of centrality and jet p_T

x_J is not unfolded for detector effects

x_J distributions in Xe+Xe and in Pb+Pb are consistent within uncertainties when compared in the same centrality or the same event activity intervals

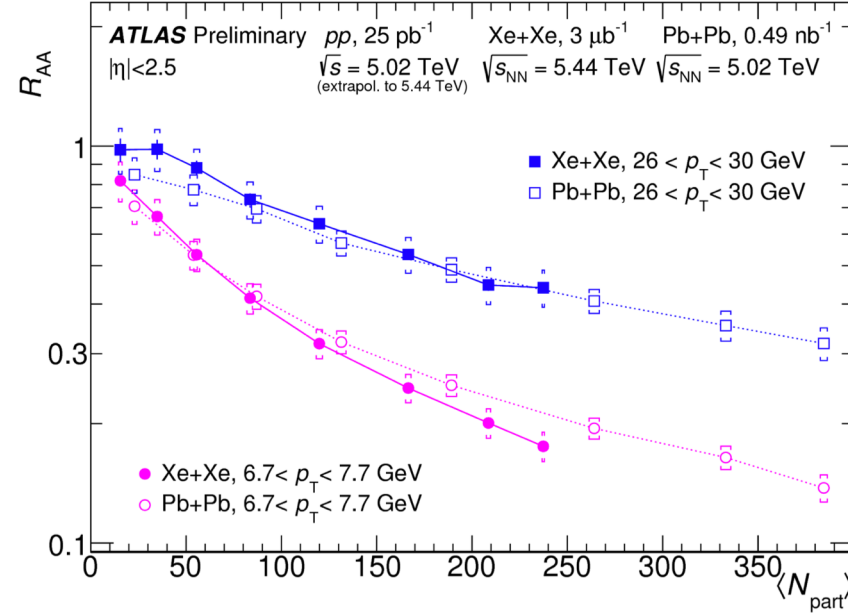
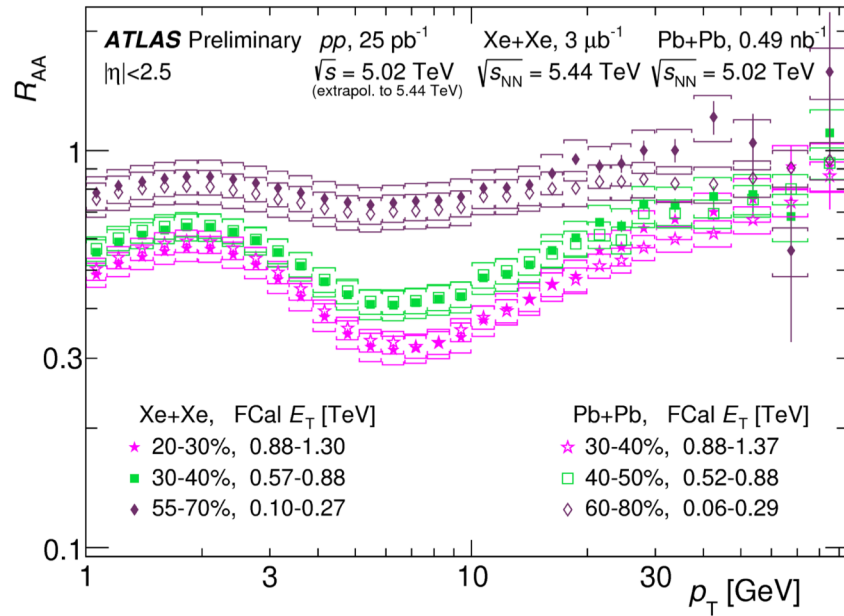
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ATLAS-CONF-2018-007

Radim Slovak

Charged hadron spectra in Xe+Xe



Charged hadron spectra in Xe+Xe extends to 60 GeV using $3 \mu\text{b}^{-1}$

The R_{AA} measured in Xe+Xe and Pb+Pb show similar patterns

Addresses a question about a role of geometry in HI collisions

Systems are compared under the same conditions: N_{part} , N_{coll} , etc.

The best correspondence is when the final system size is the same

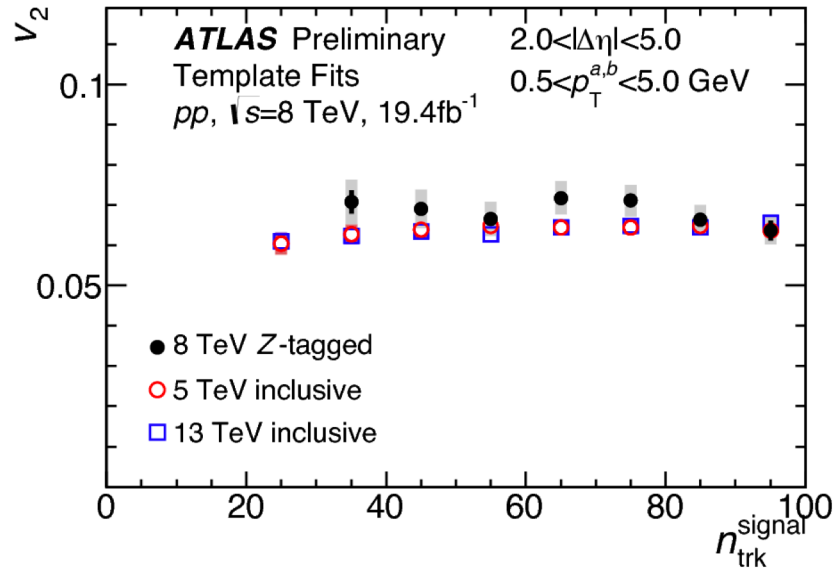
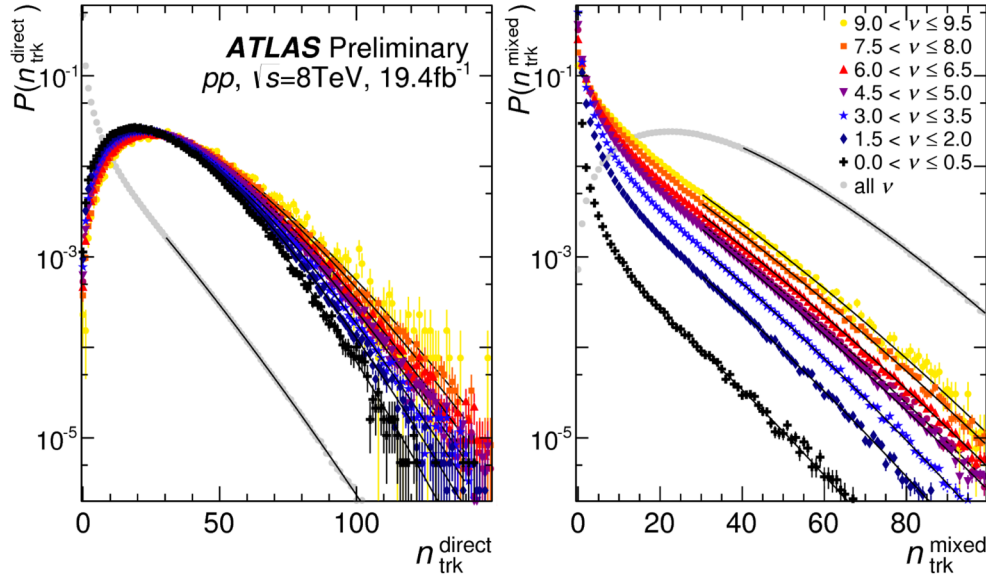
Tuesday

09:00	DIS structure f... Guillaume Beuf	ALICE results on the production of charged part...	PHENIX results on ch... T. J. Rynn	Exclusive Charmonium... Samuel Baitin
	Deep inelastic s... Henri Härmänen	Charged particle n... Austin Alan Baly	Measurements of open bottom hadron production ...	Low-pT e+e- pair produc... Dr Shuai Yang
	Impact parameter dependent JIMWLK evolution meets H...	ATLAS		Studies of beauty quark suppression via ... Hao Qiu
	Coherent J/psi production in Pb-Pb collisions...	Quenching of the gluon saturation issue - Small-x ...	Francis Arleo	Hadron Spectroscopy ...
10:00	Resolving the Gluon Saturation issue - Small-x ...	Quenching of the gluon saturation issue - Small-x ...	Francis Arleo	Hadron Spectroscopy ...
	Coffee break	Aix-Les-Bains, Savoie, France		
11:00	Inclusive photon production in DIS and p+A collisions ...	Neutral meson production in ALICE	Measurement of directed flow of ...	Tale of coherent ph... Wangmei Zhu
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	Measurement of long-range correlations ... Adam Trzpek	Systematic studies of d... Nicholas Elsey	Measurement of d... Fabrizio Grossa	Evidence for light-by-light scattering and limits on ax...
12:00	2+1D simulations of pre-equilibrium stage with QCD...	Effects of jet-medium interactions on angular correla...	Charm v2 is more hydrodynamic th... Hanlin Lu	Ultra-peripheral-collision studies in the fixed-target ...
	Transport of Heavy Quarks Across Glasma	Jet-associated deuteron production in pp collisions...	Event-multiplicity and event-shape dependence of open...	Observing the Higgs boson in ultraperipheral heavy-ion...
	lunch break	Aix-Les-Bains, Savoie, France		
14:00	PHENIX measurement of direct photon-triggered tw...	Jet splitting function in the va... Haitao Lu	D-meson production ...	Higgs boson suppression in quark-gluon matter ... Michael Peters
	Energy loss and modification of photon-tag... Sorting out the energy loss... Jasmine Brewer	Effects of drag induced radiation and multi-stage e...	Bayesian extraction of... Ron Soltz	Bayesian extraction of... Ron Soltz
	Probing jet quenching ... Dr Shuyi Wei	Higher-order corrections to jet quenching	Extract heavy quark transport... Weybo Ke	Hybrid Hadronization ... Rainer Fries
15:00	Measurement of the semi-leptonic quark-gluon plasma ... Dr Nihar Sahoo	Nuclear modification of full jets and jet structure in re...	Measurements of heavy-fla...	Heavy flavor energy loss from AdS/CFT: A novel diff... Zuman Zhang
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	Dynamical quenching weights in an expanding m... The LPM effect in a partonic transport approach	Hadron/jet measurements in Pb-Pb co...	Heavy flavor production...	Heavy flavor production... Jaime Norman
18:00	Data-driven constraints on ... Finite formation time effects for ... Victor Villa	Using di-hadron co...	PHENIX measurements of heavy quark anisotropic fl...	PHENIX measurements of heavy quark anisotropic fl... Hyeonjoong Kim
	Poster Session: Poster session (wine & cheese)	Aix-Les-Bains, Savoie, France		
19:00				

ATLAS-CONF-2018-007

Petr Balek

Ridge in pp collisions with Z boson



Alter collision impact parameter distribution in pp by requiring hard process

Developed new method how to deal with the pileup

First time entire pp run data sample is in the HI analysis

Results for 2PC consistent with inclusive

Larger, 13 TeV sample, is being analyzed.

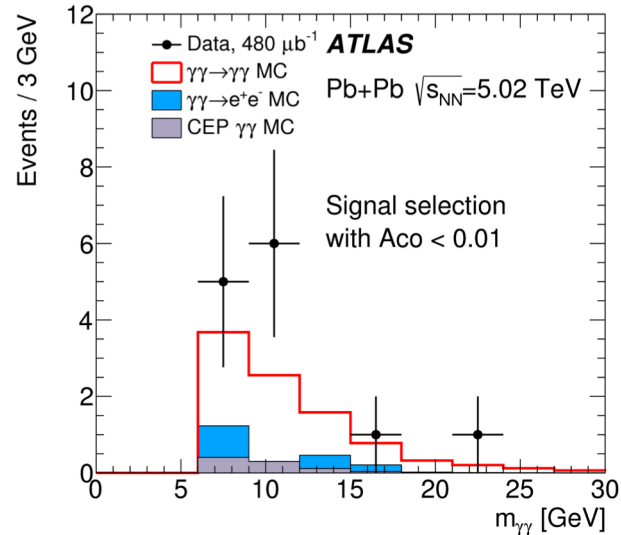
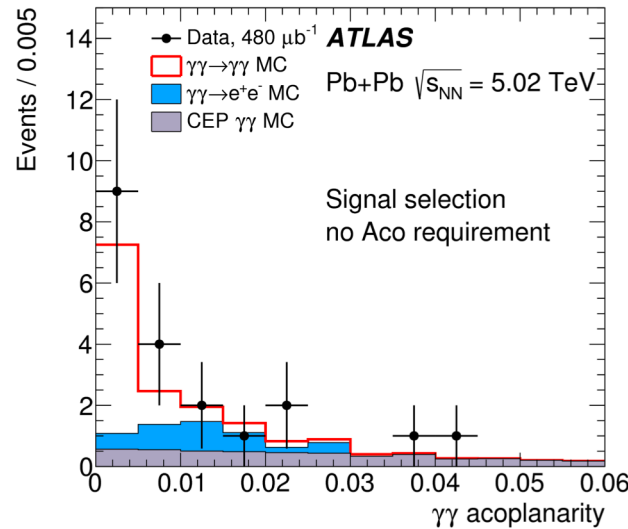
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10:00	Resolving the Gluon Saturation issue - Small-x... Small-x...	Quenching of Francis Arleo	Bs and B* meson nuclear modification factors in PbPb...	Measurement of Kousik Naskar
	Coffee break			
	Aix-Les-Bains, Savoie, France			10:20 - 10:45
11:00	Inclusive photon production in DIS and p+A collisions a... ALICE	Neutral meson production in ALICE	Measurement of directed flow of ... Liang He	Tale of coherent ph... Wangmei Zhu
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	lunch break			
	Aix-Les-Bains, Savoie, France			12:25 - 14:00
14:00	PHENIX measurement of direct photon-triggered tw... ALICE	Jet splitting function in the va... Haitao Li	D-meson production ... Michael Peters	Higgs boson suppression in quark-gluon matter
	Energy loss and modification of photon-tag... ALICE	Sorting out photon energy los... Jasmine Brewer	Effects of drag induced radiation and multi-stage e... Ron Soltz	Bayesian extraction of... Ron Soltz
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15:00	Measurement of the semi... Dr Nihar Sahoo	Nuclear modification of full jets and jet structure in re...	Measurements of heavy-fla... Zuman Zhang	Heavy flavor energy loss from AdS/CFT: A novel dif...
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	Poster Session: Poster session (wine & cheese)			
19:00				

ATLAS-CONF-2017-068

Adam Trzupek

ATLAS discovery of $\gamma+\gamma\rightarrow\gamma+\gamma$



Evidence for light-by-light scattering in ultra-peripheral heavy-ion collisions with the ATLAS detector at the LHC

A total of 13 candidate events are observed with an expected background of 2.6 ± 0.7 events.

Confirmed by CMS 14 events with expected 3.8 ± 1.3 (stat) background
Looking forward to improvements in 2018!

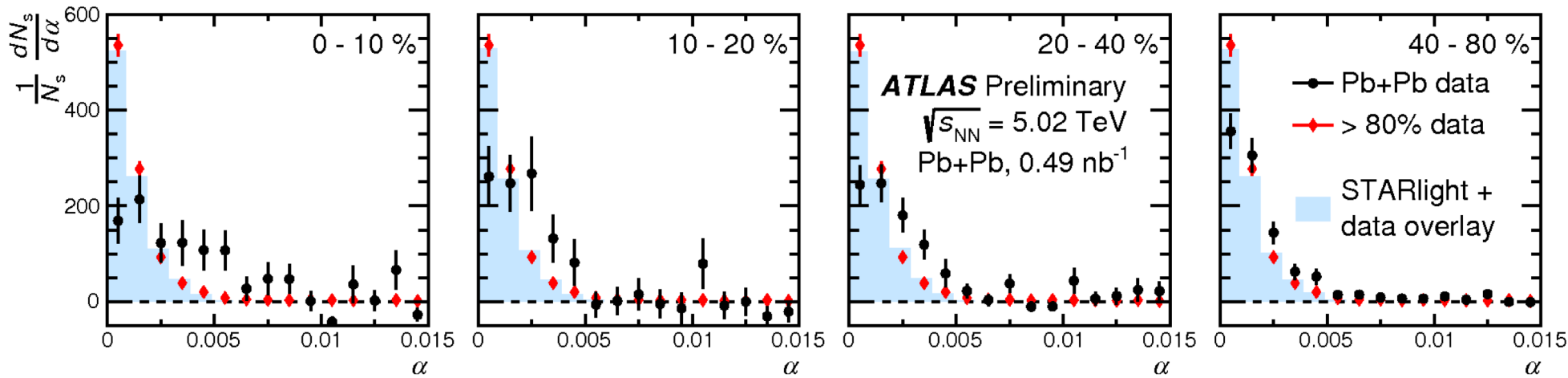
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NP13 (2017) 852

Peter Steinberg

Non-UPC muon pairs in Pb+Pb



$\mu^+\mu^-$ pairs in Pb+Pb at 5.02 TeV at all centralities have a spike at low values of acoplanarity $\alpha = 1 - \frac{|\varphi^+ - \varphi^-|}{\pi}$ and are balanced in energy

Pairs are coming from the photonuclear interactions that occur simultaneously with hadronic collision.

Data shows acoplanarity broadening (acquired k_t)

STARlight+MB event from data describe peripheral collisions but not central

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19:00				

arXiv:1806.08708

Peter Steinberg

Summary

ATLAS brings a wealth of the results to the HP2018

Five new papers on arXiv since the Quark Matter. Two papers in submission (showing only plots) and several papers are close

New research directions, new methods, new probe, preparing for more Pb+Pb data at the end of this year

To find ATLAS results Google three words: “atlas public ion”

Papers and plots can be found here:

<https://twiki.cern.ch/twiki/bin/view/AtlasPublic/HeavyIonsPublicResults>

List of ATLAS results @ HP2018

Talks:

Petr Balek Charged-particle production in Pb+Pb and Xe+Xe collisions

Mirta Dumancic Heavy flavor production and flow in large and small systems

Jakub Kremer Heavy electroweak boson production in Pb+Pb collisions

Dennis Perepelitsa Energy loss and modification of photon-tagged jets

Akshat Puri Jet fragmentation and particle angular distribution within and around jets in Pb+Pb collisions

Radim Slovak Inclusive jet and dijet suppression in Pb+Pb and Xe+Xe collisions

Martin Spousta Jet and photon probes of small collision systems

Peter Steinberg Measurements of photon-photon and photon-nucleus collisions

Sebastian Tapia A. Charmonia production in large and small systems measured

Adam Trzupek Measurement of long-range correlations in pp collisions in the presence of a Z boson

Poster:

Klaudia Burka Measurement of the azimuthal anisotropy in Pb+Pb and Xe+Xe collisions

Thank you for your attention

The ATLAS detector

