

# **Closing of CSCS2018**

**Shusu Shi & You Zhou**

# CSCS2017 -> CSCS2018

- ❖ Topic of collectivity in small systems becomes hotter and hotter
  - attendance increase by a factor of 2

## Workshop on Collectivity in Small Collision Systems

9-11 May 2017  
Niels Bohr Institute  
Europe/Copenhagen timezone

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Information about local transportation  
Wireless internet access at NBI

### Participant List

31 participants

First Name	Last Name	Affiliation
Bjoern	Schenke	Brookhaven National Laboratory
Christian	Bierlich	Lund University
Christian	Bourjau	Niels Bohr Institute
Christian Holm	Christensen	Niels Bohr Institute
Constantin	Loizides	LBL
Freja	Thoresen	NBI
Gosta	Gustafson	Astronomy and Theoretical Physics
Hans	Beggild	Niels Bohr Institute
Ian	Bearden	Niels Bohr Institute
Jan Fiete	Grosse-Oetringhaus	CERN
Jens Joroen	Gaardheie	Niels Bohr Institute

## Second international workshop on Collectivity in Small Collision Systems (CSCS2018)

13-15 June 2018  
Wuhan, China  
Asia/Shanghai timezone

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Organizing Committee  
Previous Edition  
Jet Workshop (10-12 June 2018)

### Participant List

74 participants

First Name	Last Name	Affiliation
Ao	Luo	CCNU
Baochi	Fu	Peking University
Caio	Alves Garcia Prado	Central China Normal University (CN)
Carlos Eugenio	Perez Lara	Stony Brook University
Chao	Zhang	Central China Normal University
Cheng	Tiantian	CCNU
Christian Holm	Christensen	University of Copenhagen (DK)
Chuan	Fu	central china normal university
Chun	Shen	Brookhaven National Lab
Daicui	Zhou	Central China Normal University CCNU...

Contact  
you.zhou@cern.ch  
lina\_phy@mail.ccnu.edu...



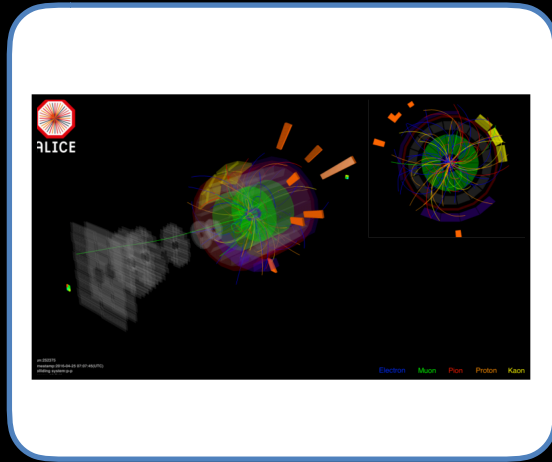
# CSCS2017 -> CSCS2018

- ❖ Topic of collectivity in small systems becomes hotter and hotter
  - Attendance becomes younger (attendance of young physicists is crucial for the entire field!)



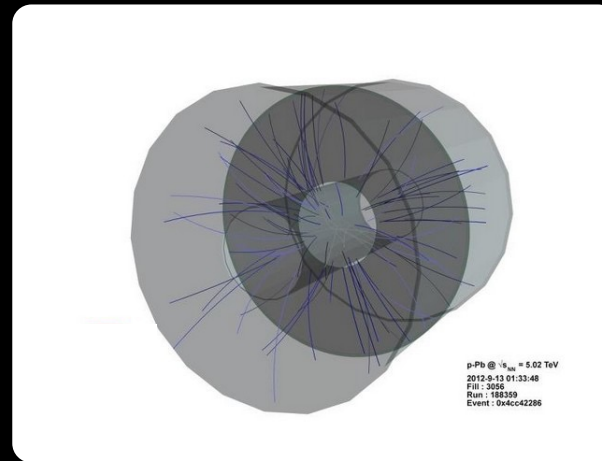
# “Small” systems at LHC

## Xe-Xe collisions



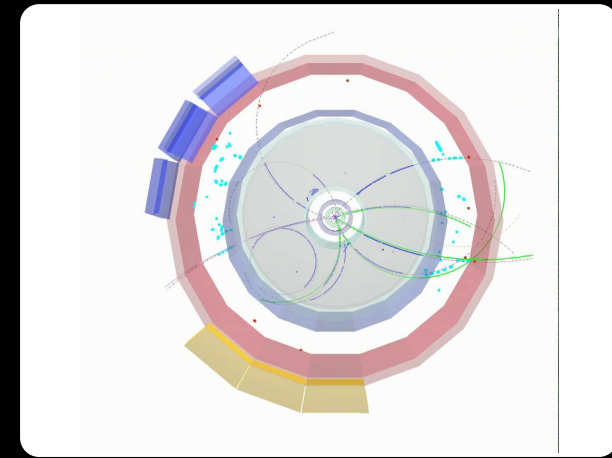
- 5.44 TeV

## p-Pb collisions



- 5.02 TeV
- 8.16 TeV










## pp collisions



- 900 GeV
- 2.76 TeV
- 5.02 TeV
- 7 TeV
- 8 TeV
- 13 TeV



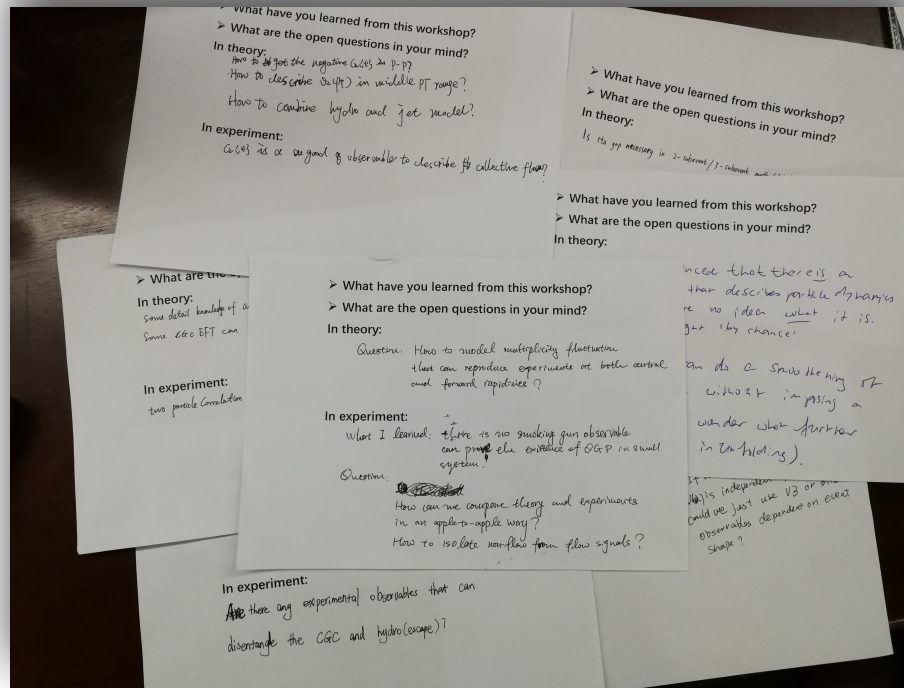
# “Small” systems at RHIC

$\sqrt{s}$ [GeV]									
510	✓								
200	✓	✓	✓	✓	✓	✓	✓	✓	✓
130								✓	
62.4	✓			✓		✓		✓	
39				✓				✓	
27				✓				✓	
20				✓		✓		✓	
14.5								✓	
7.7								✓	

From R. Belmont @ QM18

# What we learn from this workshop?

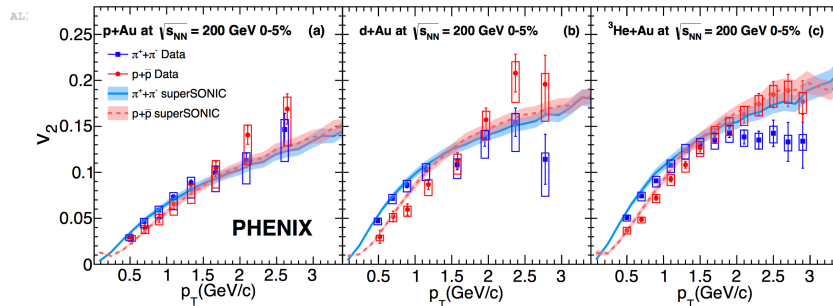
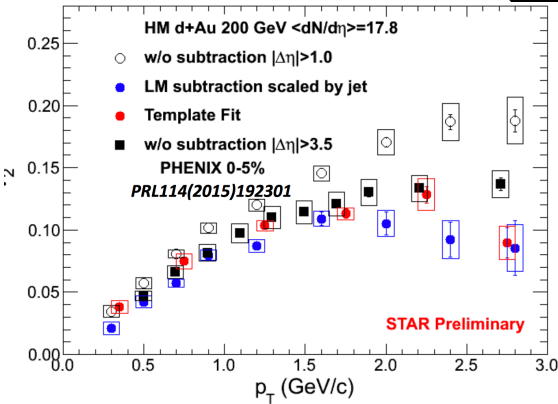
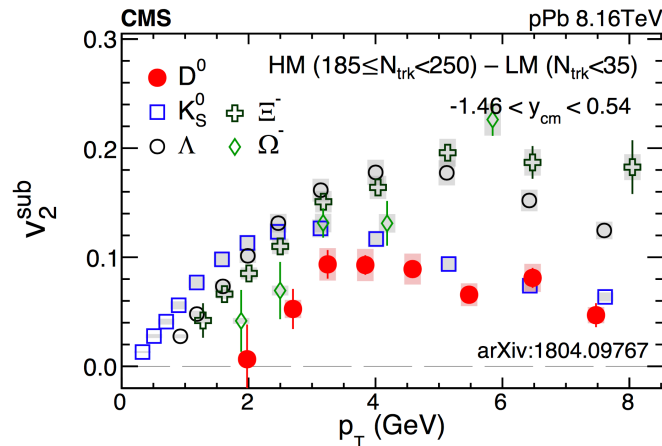
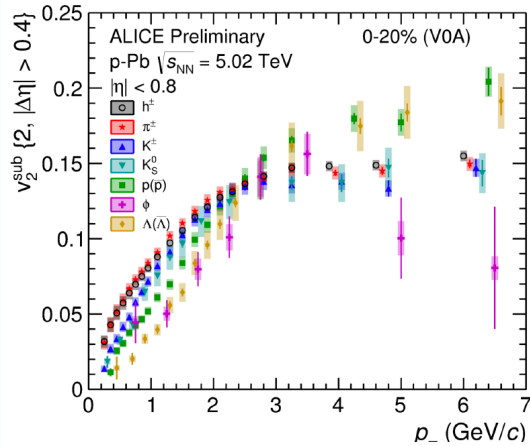
## What are the open questions?



This slide will be updated after collecting all responses



# What we saw in this workshop

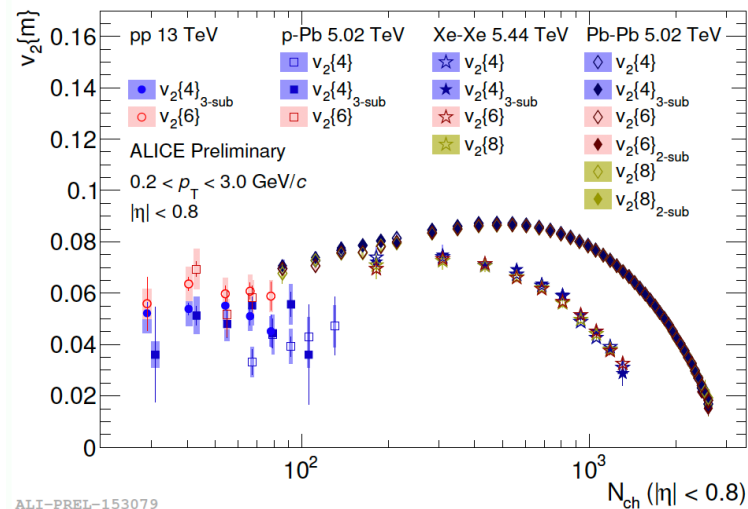
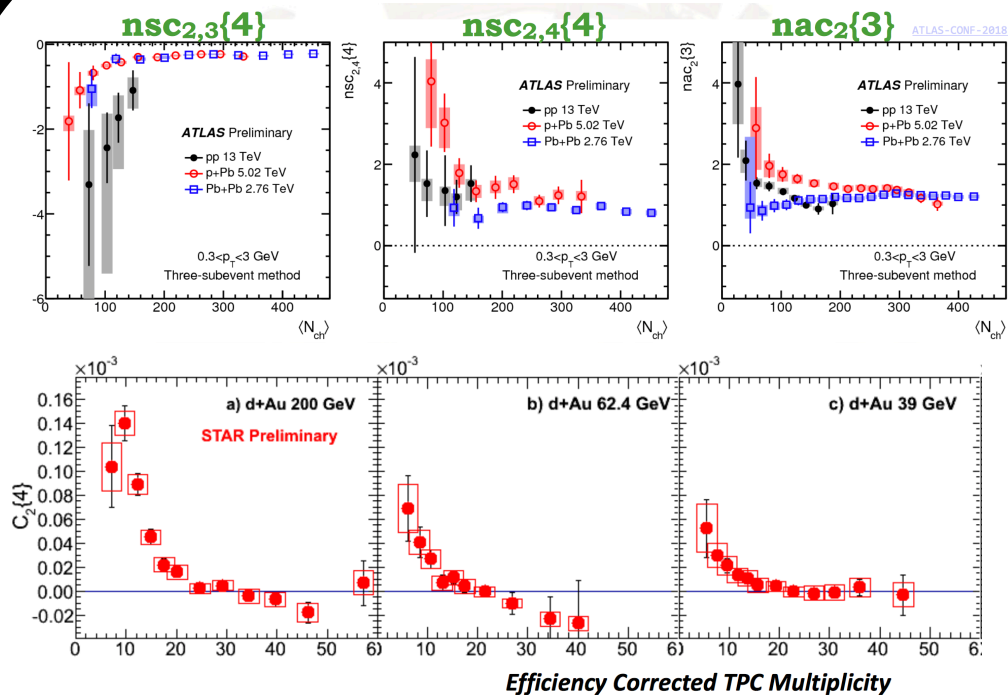


## ❖ Evidence of collectivity in small systems, in pp, p-Pb, d-Au, $^3\text{He}$ -Au

- Latest results reports by ALICE, ATLAS, CMS, LHCb, PHENIX, STAR
- There might be still room for further



# What we saw in this workshop

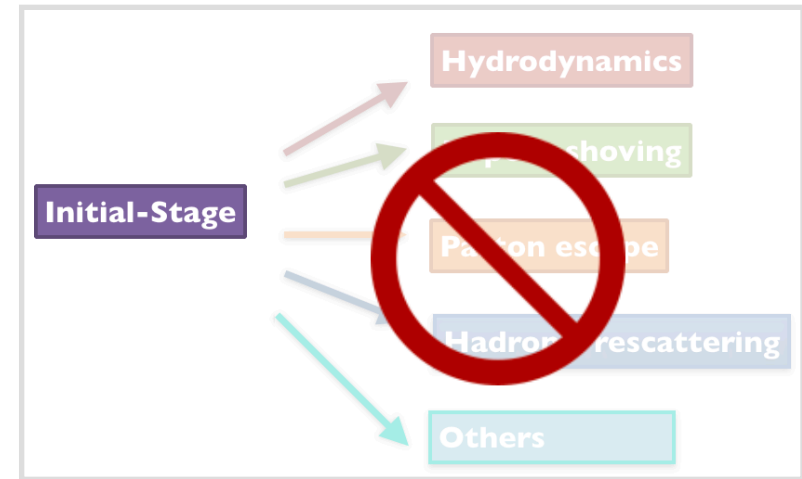
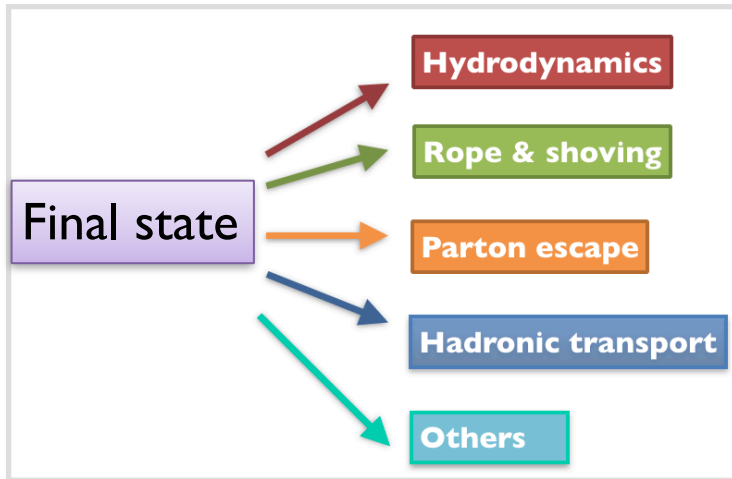


## ❖ Evidence of collectivity in small systems, in pp, p-Pb, d-Au, $^3\text{He-Au}$

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# Remaining open questions



❖ What is the origins of the observed collectivity in small systems?

- Initial stage correlation? Final state effects? Or Combined?
- There is no model which can describe the overall picture
- Possible answers in this workshop: IP-Glasma, iEBE-VISHNU, superSONIC, AMPT, Bayesian Analysis, Deep learning
- Need key observable to discriminate ISE and FSE

CSCS2019 ?

