

**RBRC Workshop: Physics  
Opportunities from the RHIC  
Isobar Run**

**Report of Contributions**

Contribution ID: 1

Type: **not specified**

## **RHIC isobar results and implication on nuclear structure**

*Tuesday, 25 January 2022 09:40 (30 minutes)*

**Presenter:** XU, Haojie (Huzhou University)

**Session Classification:** Morning session

Contribution ID: 2

Type: **not specified**

## **Imaging nuclear structure with hydrodynamics**

*Tuesday, 25 January 2022 09:00 (40 minutes)*

**Presenter:** GIACALONE, Giuliano (IPhT - Saclay)

**Session Classification:** Morning session

Contribution ID: 3

Type: **not specified**

## **introduction and overview of nuclear shapes and radial structures**

*Tuesday, 25 January 2022 10:10 (40 minutes)*

**Presenter:** BENDER, Michael (IP2I Lyon)

**Session Classification:** Morning session

Contribution ID: 4

Type: **not specified**

## **Quantum-number projection technique for nuclear structure**

*Tuesday, 25 January 2022 10:50 (30 minutes)*

**Presenter:** BALLY, Benjamin (Universidad Autonoma de Madrid)

**Session Classification:** Morning session

Contribution ID: 5

Type: **not specified**

## **Application of hydrodynamics in isobar collision**

*Tuesday, 25 January 2022 11:40 (30 minutes)*

**Presenter:** SCHENKE, Bjoern (BNL)

**Session Classification:** Afternoon Session

Contribution ID: 6

Type: **not specified**

## **Nuclear shape observables and methods**

*Tuesday, 25 January 2022 12:10 (30 minutes)*

**Presenter:** DRAAYER, Jerry (Louisiana State University)

**Session Classification:** Afternoon Session

Contribution ID: 7

Type: **not specified**

## **Initial shape engineering via final state correlations in (isobar) system scan**

*Wednesday, 26 January 2022 12:40 (30 minutes)*

**Presenter:** NORONHA-HOSTLER, Jacquelyn (University of Illinois at Urbana-Champaign)

**Session Classification:** Afternoon Session



Contribution ID: 8

Type: **not specified**

## **Scaling approach to nuclear structure in isobar collisions**

*Tuesday, 25 January 2022 13:10 (20 minutes)*

**Presenter:** ZHANG, Chunjian (Stony Brook University)

**Session Classification:** Afternoon Session

Contribution ID: 9

Type: **not specified**

## **Discussion session: Are low-energy and high-energy measuring/calculating the same thing?**

*Tuesday, 25 January 2022 14:00 (1 hour)*

**Presenters:** BENJAMIN, Bally; GIACALONE, Giuliano (IPhT - Saclay)

Contribution ID: **10**

Type: **not specified**

## **LHC results and connection to nuclear structure**

*Wednesday, 26 January 2022 11:15 (25 minutes)*

**Presenter:** ZHOU, You (Niels Bohr Institute)

**Session Classification:** Morning session

Contribution ID: 11

Type: **not specified**

## **Hydrodynamics and Bayesian Inferences in isobar collisions**

*Wednesday, 26 January 2022 10:45 (30 minutes)*

**Presenter:** VAN DER SCHEE, Wilke (Utrecht University)

**Session Classification:** Morning session

Contribution ID: 12

Type: **not specified**

## **An overview of neutron skin physics from nuclear structure and reaction: method and implications**

*Wednesday, 26 January 2022 09:40 (40 minutes)*

**Presenter:** DANIELEWICZ, Pawel (Michigan State University)

**Session Classification:** Morning session

Contribution ID: 13

Type: **not specified**

## **Ab initio nuclear structure theory and connections to heavy-ion collisions**

*Wednesday, 26 January 2022 12:00 (40 minutes)*

**Presenter:** LEE, Dean (Michigan State University)

**Session Classification:** Afternoon Session

Contribution ID: 14

Type: **not specified**

## **Overview of octupole deformation: what is it, where it is expected**

*Wednesday, 26 January 2022 09:00 (40 minutes)*

**Presenter:** ROBLEDO, Luis (Universidad Autonoma de Madrid)

**Session Classification:** Morning session

Contribution ID: 15

Type: **not specified**

## **Probe nuclear structure in Ultra-Peripheral collisions**

*Tuesday, 25 January 2022 13:30 (30 minutes)*

**Presenter:** BRANDENBURG, Daniel (Brookhaven National Laboratory)

**Session Classification:** Afternoon Session



Contribution ID: 16

Type: **not specified**

## **Measuring neutron-skin thickness with forward/backward rapidity neutrons in ultracentral relativistic isobaric collisions**

*Wednesday, 26 January 2022 10:20 (25 minutes)*

**Presenter:** XU, Jun (Shanghai Advanced Research Institute, CAS)

**Session Classification:** Morning session

Contribution ID: 17

Type: **not specified**

## **Nuclear structure in high and low energy heavy-ion collisions**

*Wednesday, 26 January 2022 13:10 (25 minutes)*

**Presenter:** ELFNER, Hannah (GSI, University Frankfurt)

**Session Classification:** Afternoon Session

Contribution ID: 18

Type: **not specified**

## **Discussion session: Future opportunities for collaboration and experimental studies**

*Wednesday, 26 January 2022 14:00 (1 hour)*

what else could heavy-ion collisions measure?

**Presenters:** LEE, Dean (Michigan State University); VAN DER SCHEE, Wilke (Utrecht University)

Contribution ID: 19

Type: **not specified**

## **Nuclear structure studies in heavy ion collisions at NICA**

*Wednesday, 26 January 2022 13:35 (25 minutes)*

**Presenter:** NIGMATKULOV, Grigory (National Research Nuclear University MEPhI)

**Session Classification:** Afternoon Session

Contribution ID: **20**

Type: **not specified**

## Welcome

*Tuesday, 25 January 2022 08:50 (10 minutes)*

**Presenters:** SHEN, Chun (Wayne State University); TEANEY, Derek (Stony Brook); GAO, Haiyan (BNL); JIANGYONG, Jia (stony brook university & BNL); XU, Zhangbu (BNL)

Contribution ID: 21

Type: **not specified**

## **Interplay of equilibrium and non-equilibrium components from dynamical core-corona towards the RHIC isobar collisions**

*Thursday, 27 January 2022 09:00 (30 minutes)*

**Presenter:** KANAKUBO, Yuuka (Sophia University)

**Session Classification:** Morning session: Longitudinal dynamics and baryon stopping

Contribution ID: 22

Type: **not specified**

## **Probing longitudinal dynamics in isobar collisions with a hybrid approach**

*Thursday, 27 January 2022 09:30 (30 minutes)*

**Presenter:** SCHÄFER, Anna (Frankfurt Institute for Advanced Studies)

**Session Classification:** Morning session: Longitudinal dynamics and baryon stopping

Contribution ID: 23

Type: **not specified**

## **Improving the AMPT model for isobar collisions**

*Thursday, 27 January 2022 10:20 (30 minutes)*

**Presenter:** LIN, Zi-Wei (East Carolina University)

**Session Classification:** Morning session: Longitudinal dynamics and baryon stopping



Contribution ID: 24

Type: **not specified**

## **Local charge/baryon conservation in isobar collision**

*Thursday, 27 January 2022 12:00 (30 minutes)*

**Presenter:** OLIINYCHENKO, Dmytro (INT)

**Session Classification:** Afternoon session: Charge fluctuations, diffusion, and correlations

Contribution ID: 25

Type: **not specified**

## **Charge fluctuations in isobar collisions and connections with lattice QCD**

*Thursday, 27 January 2022 12:30 (30 minutes)*

**Presenter:** VOVCHENKO, Volodymyr (Lawrence Berkeley National Laboratory)

**Session Classification:** Afternoon session: Charge fluctuations, diffusion, and correlations

Contribution ID: 26

Type: **not specified**

## **Relativistic fluid dynamics of multiple conserved charges**

*Thursday, 27 January 2022 13:00 (30 minutes)*

**Presenter:** FOTAKIS, Jan (University of Frankfurt)

**Session Classification:** Afternoon session: Charge fluctuations, diffusion, and correlations

Contribution ID: 27

Type: **not specified**

## **Balance function and charge fluctuations in the RHIC isobar collisions**

*Thursday, 27 January 2022 13:30 (30 minutes)*

**Presenter:** PLUMBERG, Christopher (University of Illinois at Urbana-Champaign)

**Session Classification:** Afternoon session: Charge fluctuations, diffusion, and correlations

Contribution ID: 28

Type: **not specified**

## **Realistic nucleon configuration for heavy-ion initial-state**

*Tuesday, 25 January 2022 12:40 (30 minutes)*

**Presenter:** ALVIOLI, Massimiliano (Università degli Studi di Perugia)

**Session Classification:** Afternoon Session

Contribution ID: 29

Type: **not specified**

## **Comparing initial states of $96\text{Ru}+96\text{Ru}$ and $96\text{Zr}+96\text{Zr}$ collisions at 200 GeV using a LEXUS inspired model**

*Thursday, 27 January 2022 11:20 (20 minutes)*

**Presenter:** DE, Aritra (University of Minnesota)

**Session Classification:** Morning session: Longitudinal dynamics and baryon stopping

Contribution ID: 30

Type: **not specified**

## **Effects of hydrodynamic and initial longitudinal fluctuations on rapidity decorrelation of collective flow**

*Thursday, 27 January 2022 10:00 (20 minutes)*

**Presenter:** SAKAI, Azumi (Sophia University)

**Session Classification:** Morning session: Longitudinal dynamics and baryon stopping

Contribution ID: 33

Type: **not specified**

## **Flow and Spin polarization at RHIC isobar run**

*Friday, 28 January 2022 10:00 (30 minutes)*

**Presenter:** SONG, Huichao (Peking University)

**Session Classification:** Session I



Contribution ID: 34

Type: **not specified**

## **Trento initial condition for RHIC Iso-bar collisions**

*Thursday, 27 January 2022 10:50 (30 minutes)*

**Presenter:** KE, Weiyao (Los Alamos National Laboratory)

**Session Classification:** Morning session: Longitudinal dynamics and baryon stopping

Contribution ID: 35

Type: **not specified**

## **CME Baseline for RHIC Isobar Run**

*Friday, 28 January 2022 13:00 (30 minutes)*

**Presenter:** SHI, Shuzhe (Stony Brook University)

**Session Classification:** Session II

Contribution ID: 37

Type: **not specified**

## **Machine learning of nuclear shape in heavy-ion collisions**

*Friday, 28 January 2022 09:00 (30 minutes)*

**Presenter:** PANG, LongGang (Central China Normal University)

**Session Classification:** Session I

Contribution ID: **38**

Type: **not specified**

## **EM fields in RHIC Isobar collisions**

*Friday, 28 January 2022 11:50 (30 minutes)*

**Presenter:** XU, Zhangbu (BNL)

**Session Classification:** Session II

Contribution ID: 40

Type: **not specified**

## **Interplay between nuclear structure and chiral magnetic effect in isobar collisions**

*Friday, 28 January 2022 10:30 (30 minutes)*

**Presenter:** MA, Guo-Liang (Fudan University)

**Session Classification:** Session I

Contribution ID: 41

Type: **not specified**

## **Discussion on conserved charge fluctuations and correlations**

*Thursday, 27 January 2022 14:00 (1 hour)*

**Presenters:** PLUMBERG, Christopher (University of Illinois at Urbana-Champaign); SKOKOV, Vladimir (North Carolina State University / RBRC)

Contribution ID: 42

Type: **not specified**

## **Discussion: Improving background calculations for CME search**

*Friday, 28 January 2022 13:30 (1 hour)*

**Presenters:** LIAO, Jinfeng (Indiana University); SHI, Shuzhe (Stony Brook University)

Contribution ID: 45

Type: **not specified**

## **Longitudinal flow decorrelation with hydrodynamic fluctuations and nuclear deformation**

*Friday, 28 January 2022 09:30 (30 minutes)*

**Presenter:** MURASE, Koichi (Kyoto University)

**Session Classification:** Session I



Contribution ID: 46

Type: **not specified**

## **Experimental overview on CME search in the RHIC Iso-bar systems**

*Friday, 28 January 2022 12:20 (40 minutes)*

**Presenter:** TRIBEDY, Prithwish (BNL)

**Session Classification:** Session II

Contribution ID: 47

Type: **not specified**

## The heavy ions are “preheated” prior to high-energy collisions

*Friday, 28 January 2022 11:00 (30 minutes)*

**Presenter:** SHURYAK, Edward (Stony Brook)

**Session Classification:** Session I