

MULTI-PURPOSE DETECTOR (MPD) COLLABORATION



12 Countries, >500 participants, 38 Institutes and JINR

Organization

Acting Spokesperson: **Victor Riabov**

Deputy Spokespersons: **Zebo Tang, Arkadiy Taranenko**

Institutional Board Chair: **Alejandro Ayala**

Project Manager: **Slava Golovatyuk**

Joint Institute for Nuclear Research, Dubna;

A.Alikhanyan National Lab of Armenia, Yerevan, **Armenia**;

SSI "Joint Institute for Energy and Nuclear Research – Sosny" of the National Academy of Sciences of Belarus, Minsk, **Belarus**

University of Plovdiv, **Bulgaria**;

Tsinghua University, Beijing, **China**;

University of Science and Technology of China, Hefei, **China**;

Huzhou University, Huzhou, **China**;

Institute of Nuclear and Applied Physics, CAS, Shanghai, **China**;

Central China Normal University, **China**;

Shandong University, Shandong, **China**;

University of Chinese Academy of Sciences, Beijing, **China**;

University of South China, **China**;

Three Gorges University, **China**;

Institute of Modern Physics of CAS, Lanzhou, **China**;

Tbilisi State University, Tbilisi, **Georgia**;

Institute of Physics and Technology, Almaty, **Kazakhstan**;

Benemérita Universidad Autónoma de Puebla, **Mexico**;

Centro de Investigación y de Estudios Avanzados, **Mexico**;

Instituto de Ciencias Nucleares, UNAM, **Mexico**;

Universidad Autónoma de Sinaloa, **Mexico**;

Universidad de Colima, **Mexico**;

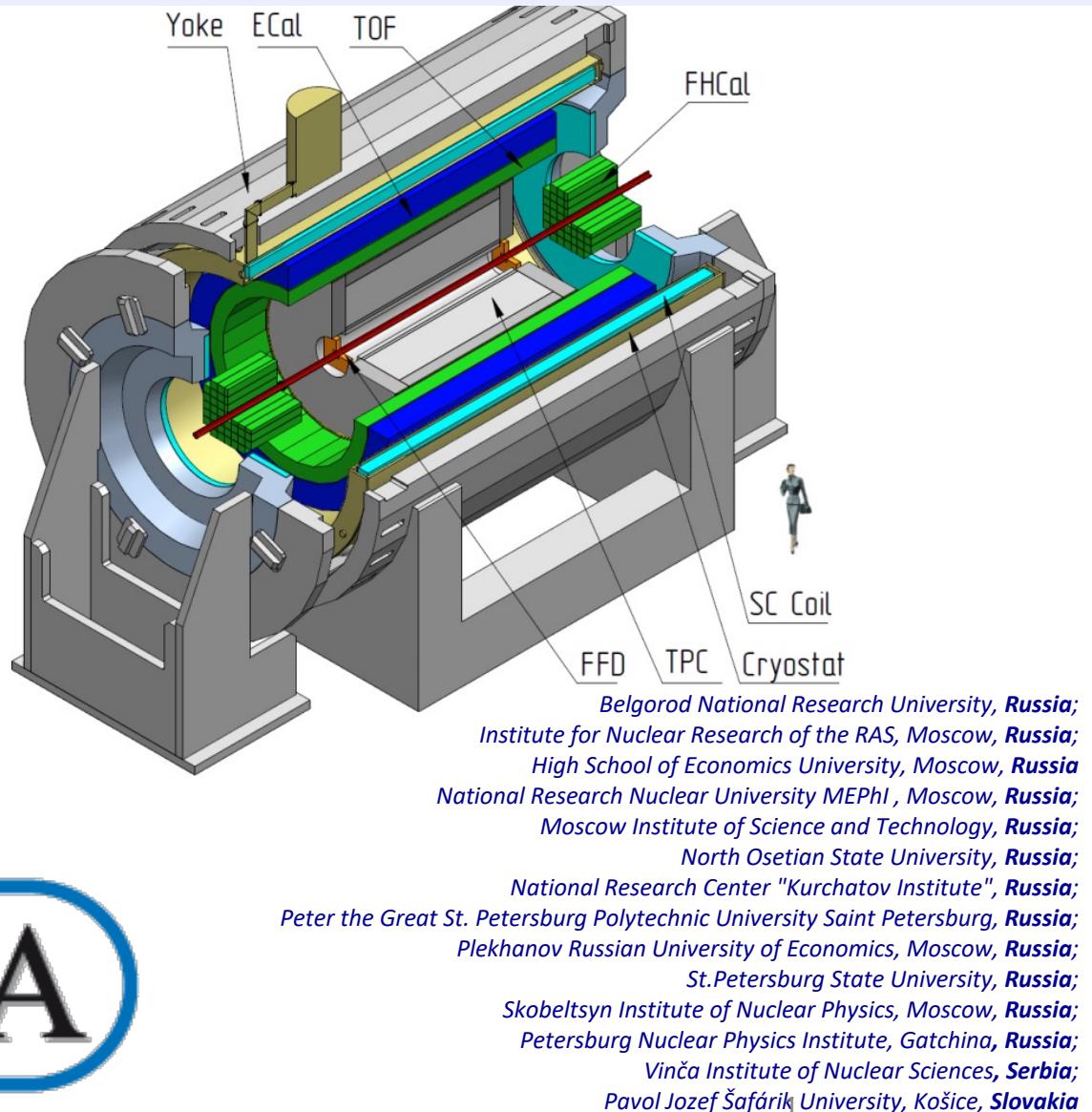
Universidad de Sonora, **Mexico**;

Universidad Michoacana de San Nicolás de Hidalgo, **Mexico**

Institute of Applied Physics, Chisinev, **Moldova**;

Institute of Physics and Technology, **Mongolia**;

MPD International Collaboration was established in 2018
to construct, commission and operate the detector



UPCOMING EVENTS

MPD FORUM

CONTACTS

MAILING LISTS

COLLABORATION

PARTICIPANTS INSTITUTIONS

EXECUTIVE COUNCIL

INSTITUTIONAL BOARD

TECHNICAL BOARD

PHYSICS COUNCIL

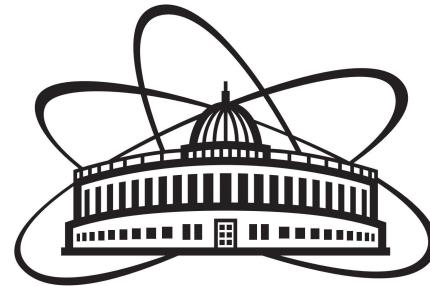
SPEAKER'S BUREAU

COLLABORATION LIST**MPD SETUP**

SHOW 25 OTHERS

Search:

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AANL GROUP IN MPD COLLABORATION

Hovik Grigorian (JINR-LIT & YSU & AANL) – lead of group

Alexander Ayriyan (JINR-LIT & AANL)

Arpine Piloyan (AANL)

Narine Gevorgyan (AANL & RAU)

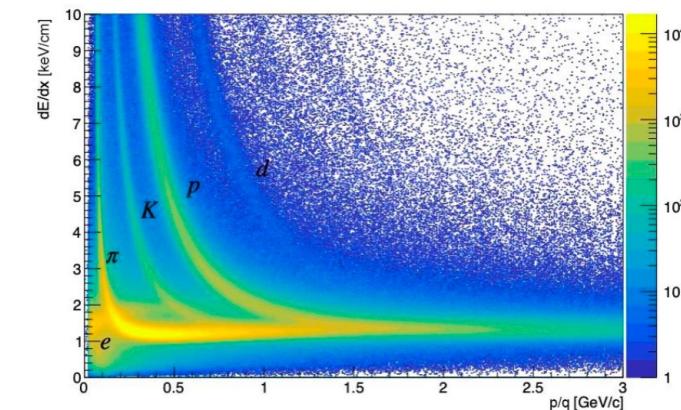
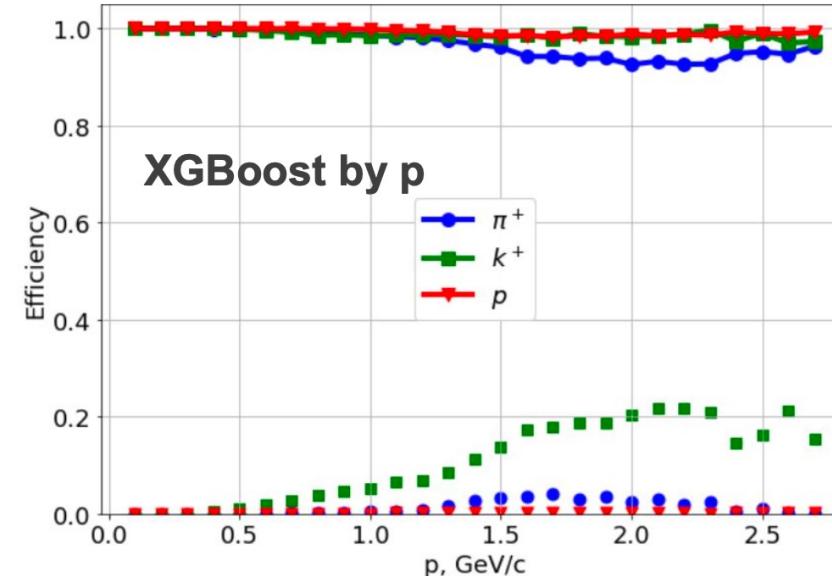
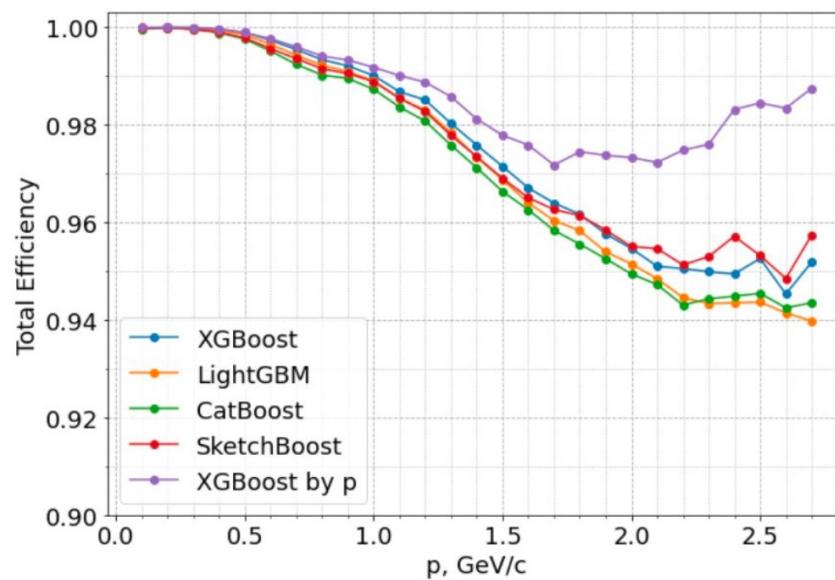
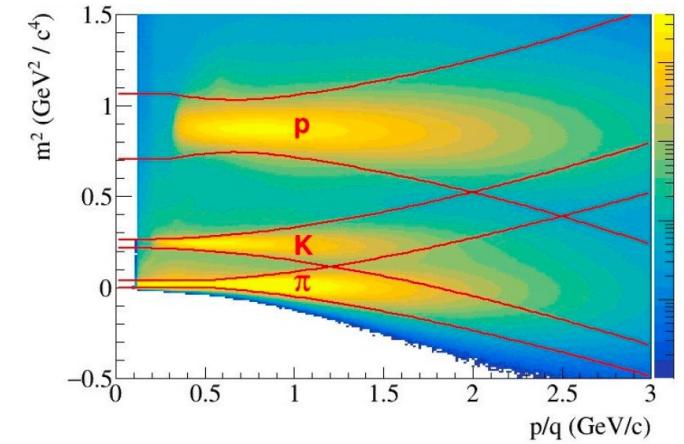
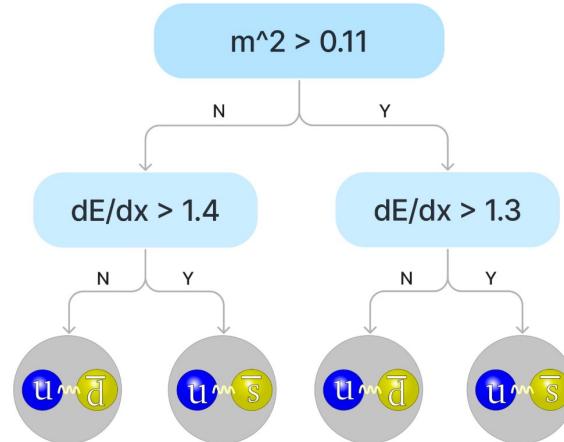
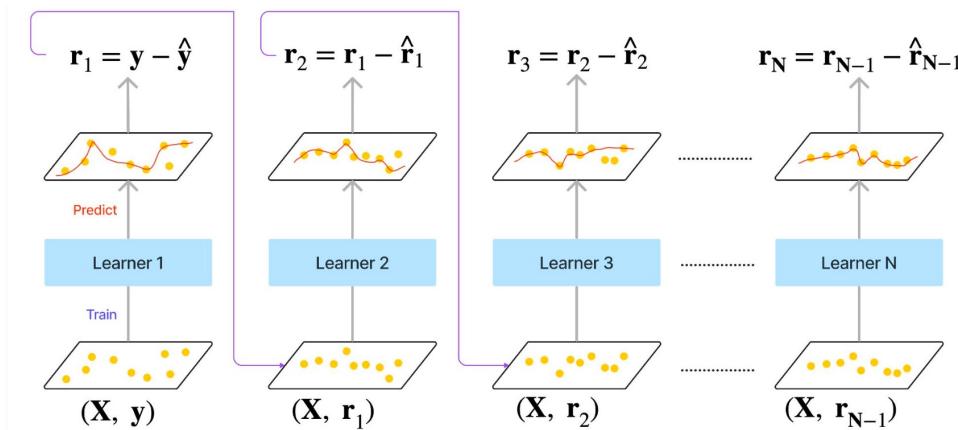
Vahagn Abgaryan (JINR-LIT & AANL)

Maria Apitonian (AANL & AUA)

Vladimir Papoyan (JINR-LIT & AANL)



PID WITH TPC AND TOF BY BOOSTED DECISION TREES

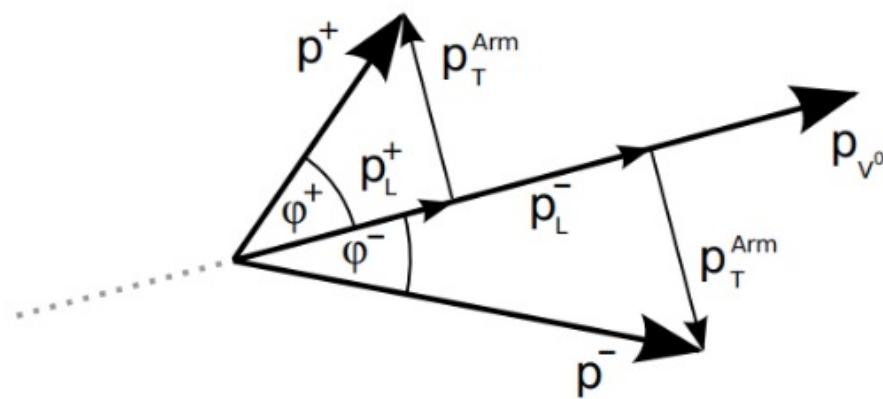


Efficiency
 $E=0.9952$

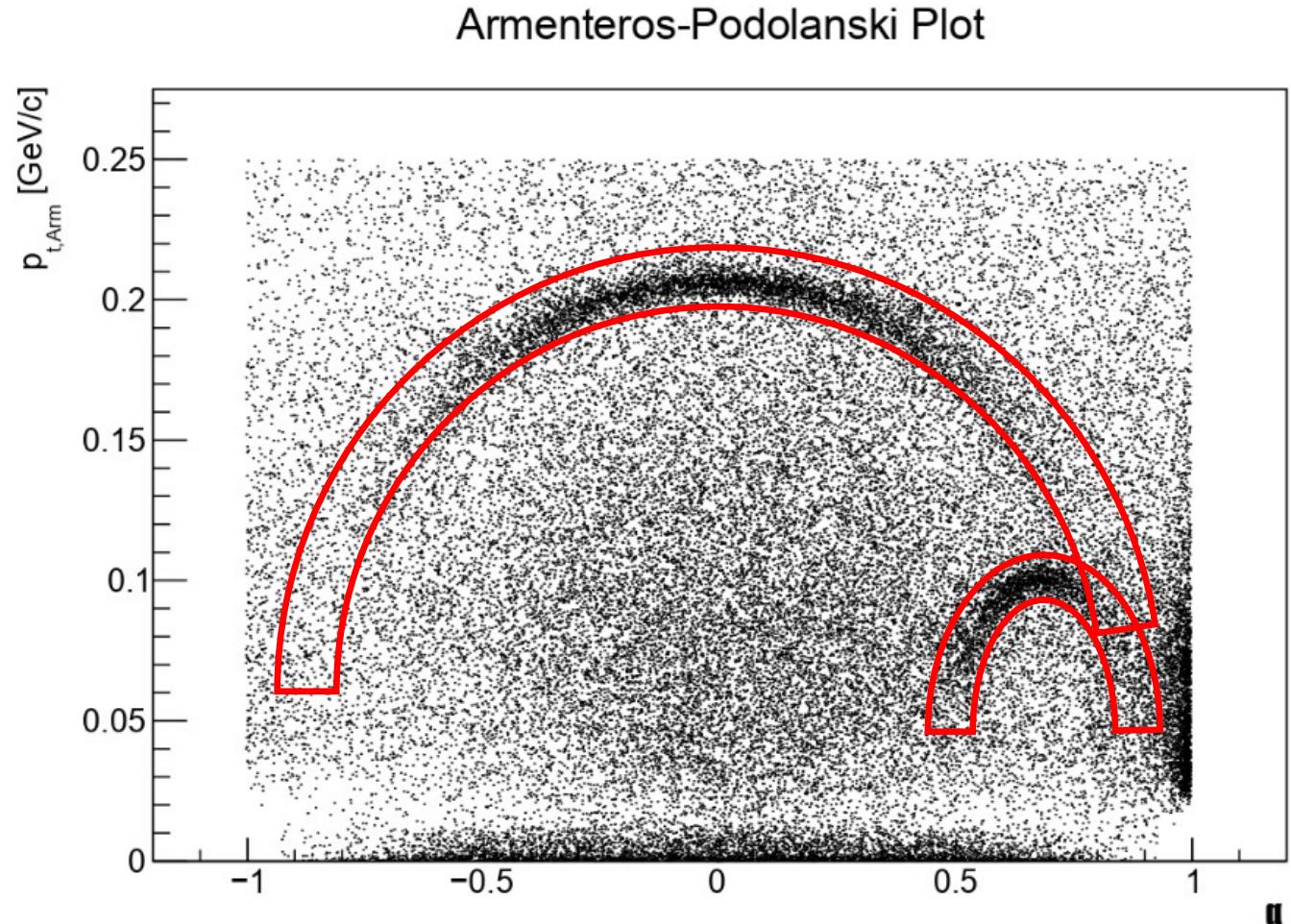
KAON AND LAMBDA IDENTIFICATION (PRELIMINARY)

$$K_S^0 \rightarrow \pi^+ + \pi^- \quad \Lambda^0 \rightarrow p^+ + \pi^-$$

$$K_S^0 \rightarrow \pi^0 + \pi^0 \quad \Lambda^0 \rightarrow n^0 + \pi^0$$



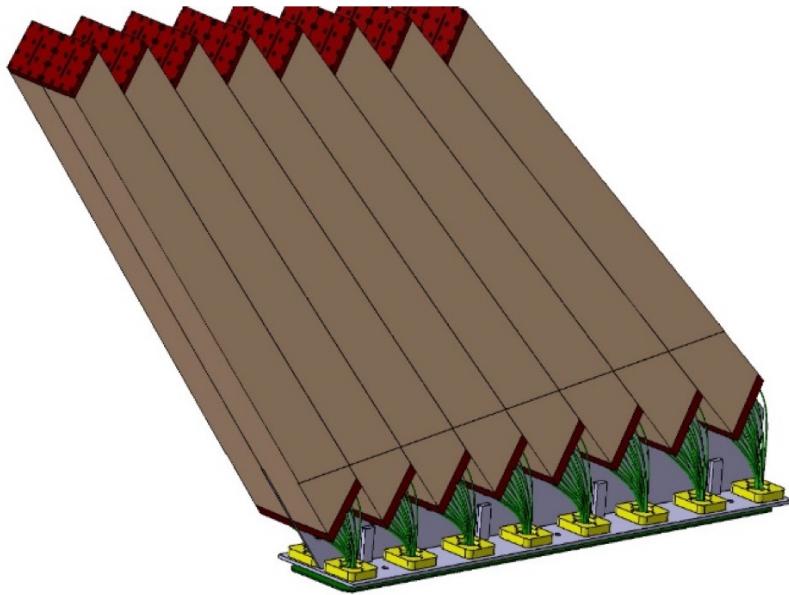
$$\alpha = \frac{p_L^+ - p_L^-}{p_L^+ + p_L^-}$$



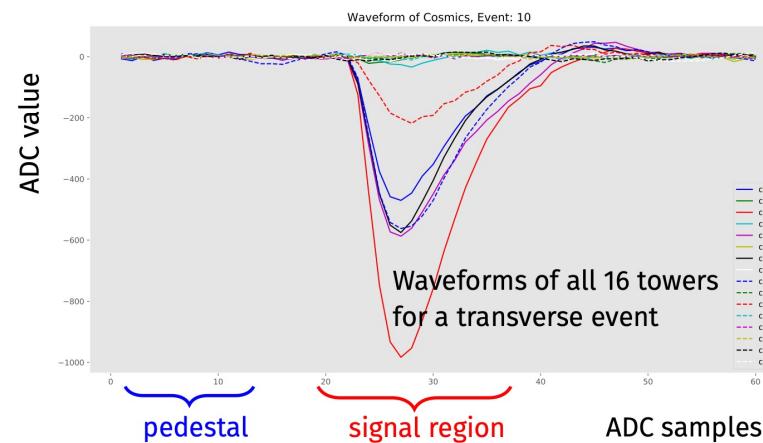
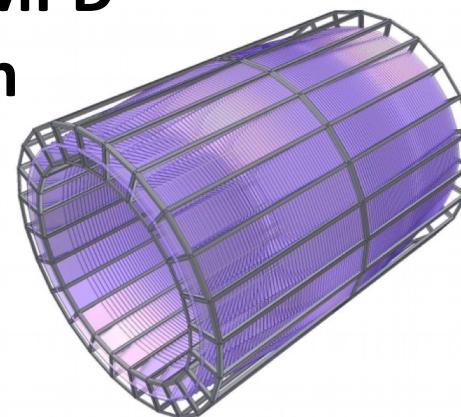
Apitonian, Hunanyan, Korobitsin, Aparin

IN-KIND CONTRIBUTION 2022

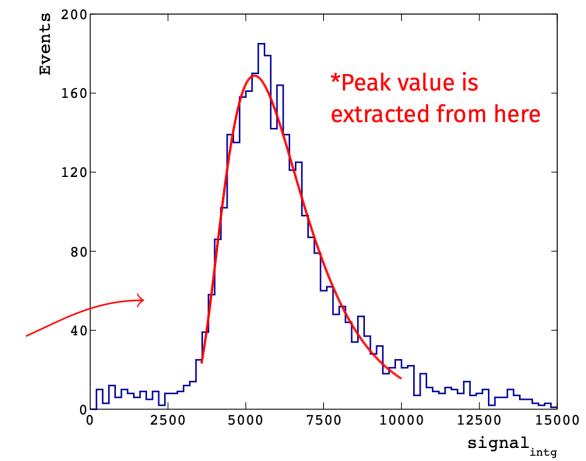
**Contribution to calibration of MPD
ECal modules under supervision
of Dr. I. Tyapkin**



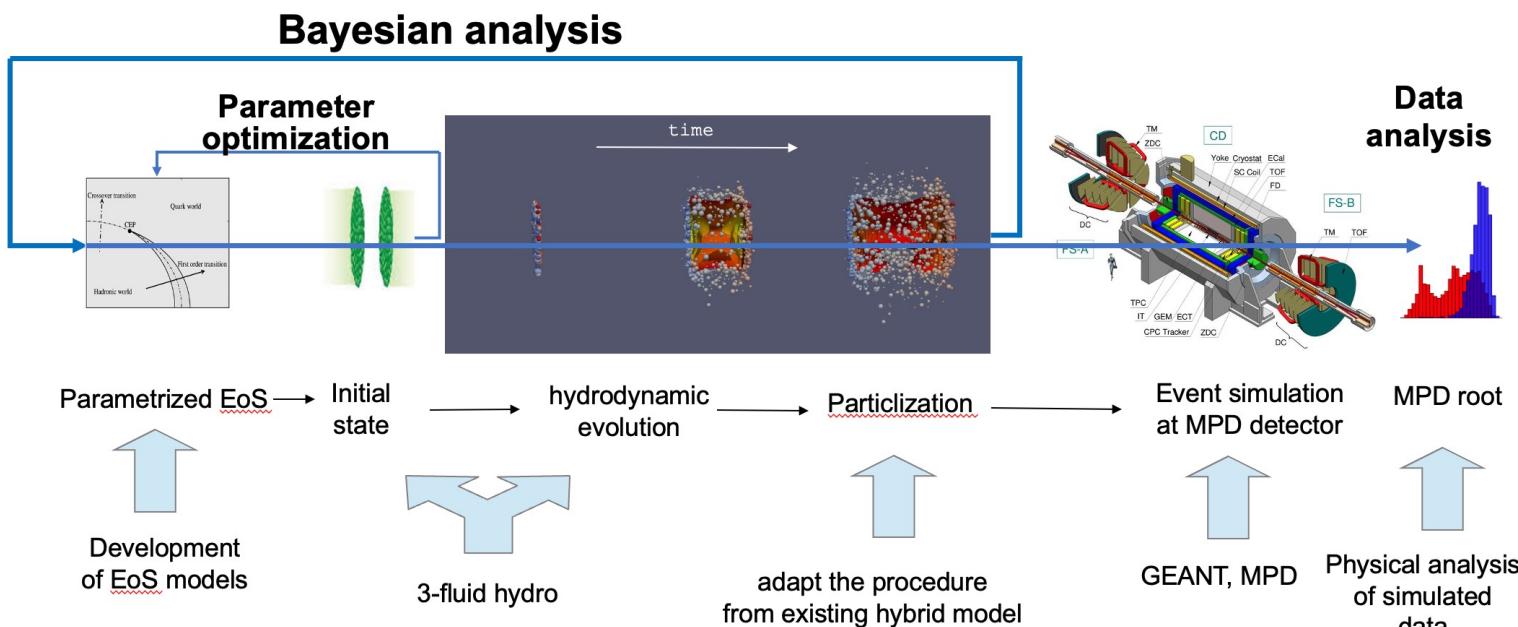
A module from 16 Towers stacked in two rows



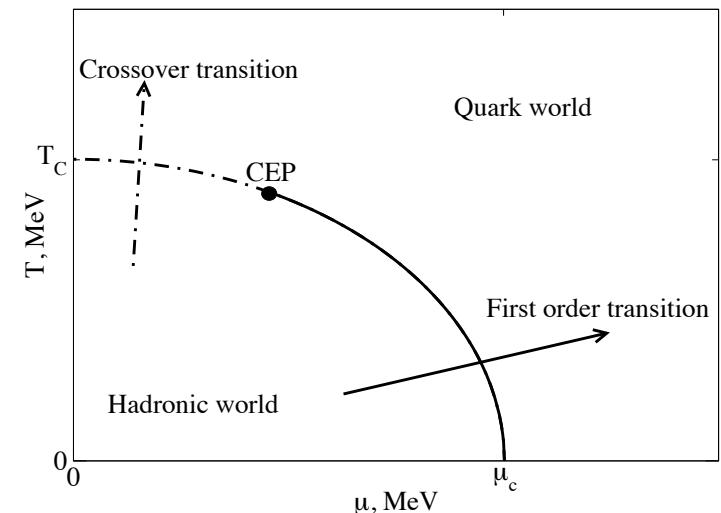
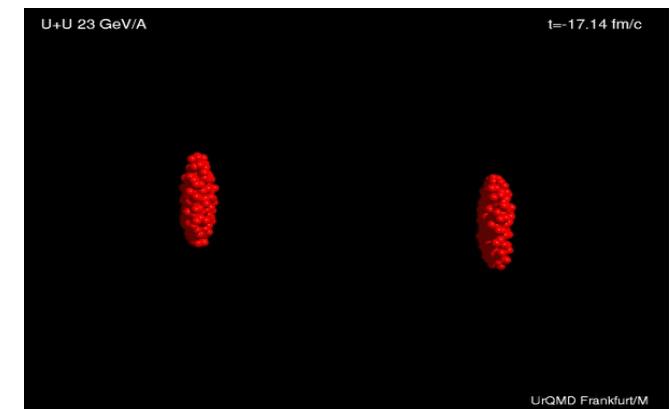
Maria Apitonian Asya Hunanyan



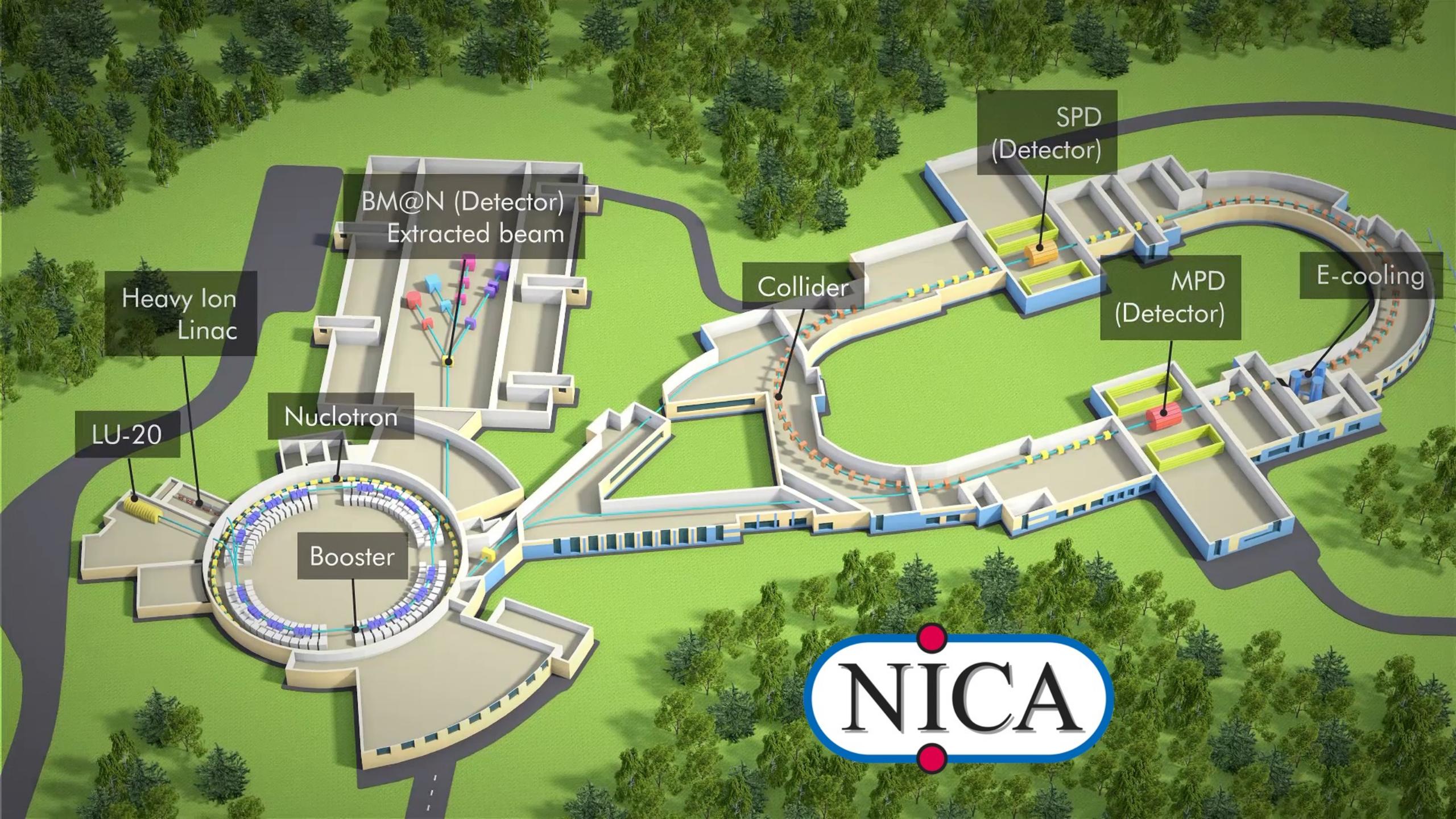
DEVELOPMENT HYBRID EoS FOR HIC MODELLING



The idea is to study EoS based
on HIC simulations in the NICA
energy range



Development of constructions
of the hybrid EoS with finite
densities and temperatures



NICA