



# MELODY 2023

The first Workshop on  
**M**uon Sci**E**n**C**e Techno**L**Ogy  
and In**D**ustr**Y**

*China Spallation Neutron Source  
4-6 November, 2023*

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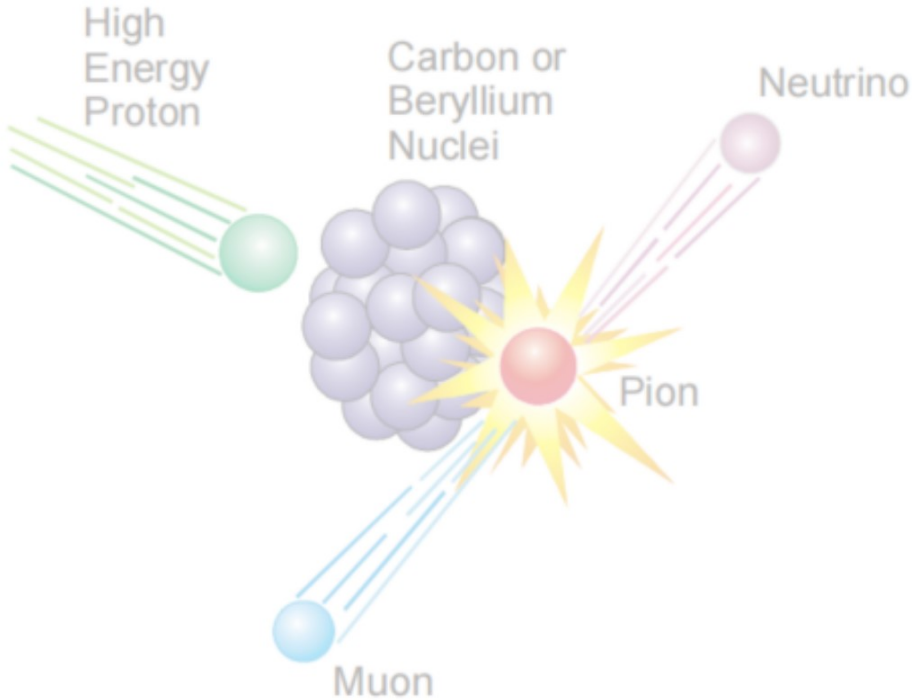
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# About China Spallation Neutron Source



The China Spallation Neutron Source (CSNS) is the first pulsed neutron source facility ever constructed in a developing country. It serves as an advanced experimental platform for interdisciplinary research and showcases China's scientific, technological, economic, and industrial prowess. Furthermore, it stands as a testament to China's capabilities in these areas.

CSNS is located in Dalang Town, Dongguan City, at the heart of the Guangdong-Hong Kong-Macao Greater Bay Area. It comprises a powerful linear accelerator, a rapid circling synchrotron, a target station, and three Phase I neutron instruments. Its primary objective is to provide a robust platform for fundamental scientific research and high-tech

development across various fields such as material science, life science, resource environment, new energy, etc.



# 中国散裂中子源简介

中国散裂中子源是国家“十一五”期间重点建设的十二大科学装置之首，将为我国材料科学技术、物理、化学化工、生命科学、资源环境和新能源等提供一个先进、功能强大的科研平台，成为继英国散裂中子源、美国散裂中子源和日本散裂中子源之后，全世界第四台脉冲型散裂中子源。项目落户广东省东莞市大朗镇，总投资约 23 亿元，由中国科学院和广东省人民政府共同建设，中国科学院高能物理研究所为项目法人，中国科学院物理研究所参建。

中国散裂中子源的建设得到了国家有关部委及广东省、东莞市的大力支持。它将对粤港澳大湾区国际科技创新中心建设提供重要的科技支撑，对满足国家重大战略需求、解决诸多领域前沿科学问题具有重要意义。

小粒子成就大世界，中国散裂中子源，将展现绚丽多姿的科技魅力，为实现中华民族伟大复兴的“中国梦”贡献力量！

<b>4th, November 2023 (Saturday)</b>	
<b>Venue: A1-Lecture Hall, CSNS</b>	
<b>08:30-09:00 Registration (CSNS Lobby)</b>	
<b>Chair: Tianjiao Liang</b>	
9:00	Tianjiao Liang(CSNS,IHEP) Opening remarks
9:10	Huachang Liu CSNS accelerator system and upgrade
9:35	Yu Bao Design of MELODY and future
10:10	Kim Siang Khaw Prospects for a kHz-MHz repetition rate pulsed muon beam in the Shanghai SHINE facility
<b>10:45-11:05 Coffee Break: CSNS Lobby &amp; Photo</b>	
<b>Chair: Xiao Li</b>	
11:05	Tianjue Zhang An efficient high power proton accelerator and its possible muon application
11:40	Yuan He CiADS and Its Plan of Muon Source
<b>12:15-13:45 Lunch: A4-Staff Canteen</b>	
<b>Chair: Xin Tong</b>	
13:45	Yoshitaka KUNO Muon particle physics experiments
14:20	Liang Li New Physics Potential from Muon g-2 Experiment at Fermilab
14:55	Kim Siang Khaw The nuts and bolts of muon precession frequency measurements in the Fermilab Muon g-2 experiment
<b>15:30-15:45 Coffee Break: CSNS Lobby</b>	
<b>Chair: Nikolaos Vassilopoulos</b>	
15:45	Rehman Muhammad Abdul Studies on 3D spiral injection for compact storage rings
16:10	Kim Siang Khaw Searching for a permanent muon electric dipole moment in the PSI muEDM experiment
16:40	Chen Wu Status of the COMET Experiment at J-PARC
17:05	DISCUSSION: Muon particle physics in future facilities (Chair: Yoshitaka KUNO)
<b>17:40-19:30 Dinner: Hampton Cafeteria</b>	

<b>5th, November 2023 (Sunday)</b>	
<b>Venue: A1-Lecture Hall, CSNS</b>	
<b>Chair: Akihiro Koda</b>	
9:00	Jess Brewer History of muSR
9:35	Fanlong Ning muSR Investigation of Bulk Form Magnetic Semiconductors
10:05	Shu Lei Exploration of quantum spin liquid ground state by MuSR
<b>10:35-10:50 Coffee Break: CSNS Lobby</b>	
<b>Chair: Lei Shu</b>	
10:50	Akihiro Koda Surface muon beamline and sample environments at J-PARC MLF
11:25	Gaoting Lin MuSR study on the magnetism frustrated systems with triangular lattice and honeycomb lattice
11:55	Tian Shang Investigating the electronic correlated materials using muon spin spectroscopy
<b>12:25-14:00 Lunch: A4-Staff Canteen</b>	
<b>Chair: Ruirui Fan</b>	
14:00	Thomas Prokscha Status of the Swiss Muon Source
14:35	Sohtaro Kanda The ultra-slow muon facility at J-PARC MUSE
15:00	Yang Li Muon cooling based on frictional cooling
<b>15:25-15:40 Coffee Break</b>	
<b>Chair: Kim Siang Khaw</b>	
15:40	Lei Liu Target design of MELODY
16:05	Guangdong Liu Beamline design of MELODY
16:30	You Lv Beam measurement of MELODY
16:55	Qiang Li Spectrometer design of MELODY
17:20	DISCUSSION: muSR applications for MELODY ( <b>Chair: Shiliang Li</b> )
<b>17:50-19:30 Dinner: A4-Staff Canteen</b>	

## 6th, November 2023 (Monday)

Venue: A1-Lecture Hall, CSNS

**Chair: Yoshitaka KUNO**

9:00 Naritoshi Kawamura  
The muon facility of MLF J-PARC

Ziwen Pan  
9:35 Feasibility study and preliminary test of a coded aperture based muonic x-ray element imaging method

10:10 Yuhang Guo  
Physical design of a novel MuMubar spectrometer

**10:35-10:50 Coffee Break: CSNS Lobby**

**Chair: Liang Li**

10:50 Qite Li  
R&D of cosmic muon imaging based on RPC

11:15 Jifeng Hu  
Simulation study of imaging widgets with CSNS muon beam

Yu Wang  
11:40 Development and experimental study of the high spatial resolution muon imaging prototypes with Micromegas detectors

**12:05-14:00 Lunch: A4-Staff Canteen**

**Chair: Ziwen Pan**

Vadim Grinenko  
14:00 MuSR as a primary tool to search for superconductors with broken time-reversal symmetry

Shiliang Li  
14:30 Neutron diffraction and muSR studies on several quantum magnetic systems

Ping Miao  
15:00 Persistent spin dynamics in magnetically ordered honeycomb cobalt oxides.

**15:30-16:00 Coffee Break: CSNS Lobby**

**Chair: Qiang Li**

Xiaojie Ni  
16:00 Study of metal halide perovskite materials by low energy uSR

Rhea Stewart  
16:30 The ISIS muon facility now and into the future

16:55 DISCUSSION: multidisciplinary applications (**Chair: Yu Bao**)

**17:30-19:30 Dinner: A4-Staff Canteen**



## **General Information**

### **Zoom Link for MELODY2023**

Day 1: Nov. 4th (Saturday)

Topic 主题: MELODY2023

Meeting ID 会议号: 91756179751

Begin Time 开始时间: 2023-11-04T08:30:00

Meeting URL 会议链接:

<https://zoom.us/j/91756179751?pwd=N05WSXIMK0c2ZVh1cURUYjhseXRUUT09>

Password 会议密码: 202311

Day 2: Nov. 5th (Sunday)

Topic 主题: MELODY2023

Meeting ID 会议号: 93864751381

Begin Time 开始时间: 2023-11-05T08:30:00

Meeting URL 会议链接:

<https://zoom.us/j/93864751381?pwd=cE5TTzJGQ2EzS3FoYlFMdE1Ra3ZXUT09>

Password 会议密码: 202311

Day 3: Nov.6th (Monday)

Topic 主题: MELODY2023

Meeting ID 会议号: 95948860295

Begin Time 开始时间: 2023-11-06T08:30:00

Meeting URL 会议链接:

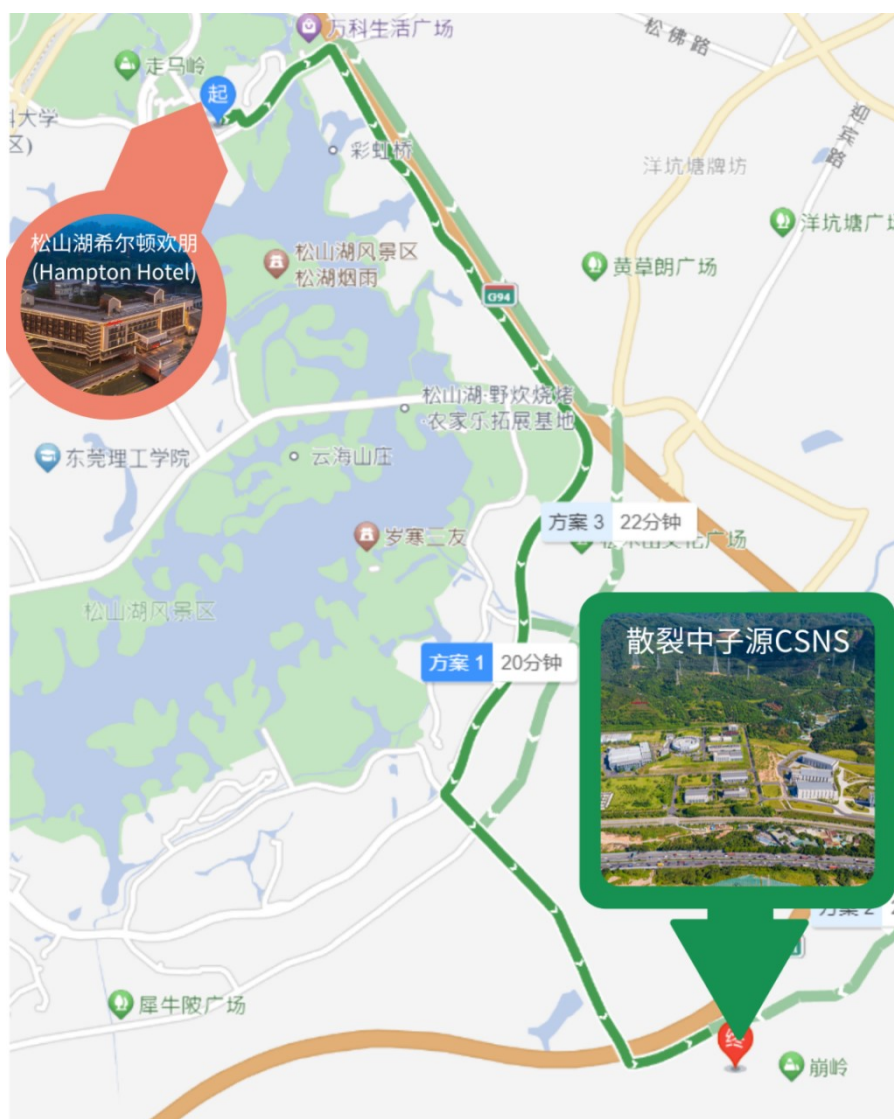
<https://zoom.us/j/95948860295?pwd=UFZGdHlid01LUS9ZekxUQUVRcUQzdz09>

Password 会议密码: 202311

## Area Map

Tips: A shuttle bus will be arranged between the hotel and CSNS venue on a particular time.

Shuttle Bus Timetable		
Date	Time	Departure from
4 <sup>th</sup> Nov. (Saturday)	8:15 a.m.	Hampton Hotel
	5:30 p.m.	CSNS
5 <sup>th</sup> Nov. (Sunday)	8:30 a.m.	Hampton Hotel
	7:00 p.m.	CSNS
6 <sup>th</sup> Nov. (Monday)	8:30 a.m.	Hampton Hotel
	7:00 p.m.	CSNS



## Accommodation

Hampton by Hilton Dongguan Songshan Lake

Address: Building 3 and 4, Songke Garden, Libin Road, Songshan Lake High-tech Zone,  
Dongguan City, Guangdong Province



## WIFI Connection

Step 1: Select the WIFI named "IHEP";

Step 2: login website page: network.csns.ihep.ac.cn;

Step 2: Select "Meeting ID" and check the box of the agreement, and then click "Continue";

The screenshot shows a web form titled "网络接入申请单 - Step 1 of 4". The form has a progress bar at the top with four steps: 1. 选择用户类型 (Select User Type), 2. 用户验证 (User Validation), 3. 设备信息 (Device Information), and 4. 完成申请 (Complete application). The current step is 1. Below the progress bar, the title "选择用户类型 (Select User Type)" is displayed. A message in Chinese and English states: "如果您之前有提交过非参会网络接入申请，可以点击此链接查看处理进度" / "If you have previously submitted a non-participation network access application, you can click this link to view the progress of the process." There are four radio button options: 1. 本所职工与本所学生 (Staff of IHEP), 2. 嘉宾、外聘、联合培养学生 (Guest, external, joint training of students), 3. 短期来访 (有效期最长为30天，如需更长时间网络服务，请选择其他类型) (Visitor), and 4. 会议代码 (Meeting ID). The fourth option is selected. Below the options, there is a checked checkbox: "我已阅读并同意遵守《高能所网络环境使用条例》" / "I have read and agree to abide by the High Energy Institute Network Environment Regulations, view the agreement". A blue "继续 (Continue)" button is at the bottom right of the form area.

Step 3: Input the Meeting ID: MELODY2023 to connect.

If you have any problem with the network connection, please inform the meeting Staff.

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# MELODY 2023

Thank you for attending