

# The 2<sup>nd</sup> LHAASO Collaboration Conference in 2023



November 25-29, 2023

Tianfu Cosmic Ray Research Centre



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## Notes:

### Registration

November 24, 2023(14:00-20:00) Hampton by Hilton Chengdu Xi-bo-cheng

### Conference Venue

November 25 ---29, 2023 Tianfu Cosmic Ray Research Centre  
Conference Room on the 5th floor

### Contact

in Chengdu: Shuye Liao Call: 15101588795 email: liaosy@ihep.ac.cn

### Shuttle bus

Date	Route	departure time	Pick-up
November 25	Hotel→Centre	08:35a.m, 08:40a.m	Outside the hotel
November 26	Hotel→Centre	08:05a.m, 08:10a.m	Outside the hotel
November 27	Hotel→Centre	08:05a.m, 08:10a.m	Outside the hotel
	Centre→ banquet	6:00p.m	Outside the center
November 28	Hotel→Centre	08:05a.m, 08:10a.m	Outside the hotel
November 29	Hotel→Centre	08:05a.m, 08:10a.m	Outside the hotel
	Centre→ Hotel	5minutes after the meeting	Outside the center

### Meals

#### November 24

dinner 18:00-20:30 buffet, Western restaurant on the 26th floor of the hotel (please take meal voucher)

#### November 25

lunch 12:30-13:30 Table meal, Chemistry Institute's Canteen  
(Please bring your badge)

#### November 26

lunch 12:30-13:30 Table meal, Chemistry Institute's Canteen  
(Please bring your badge)

## November 27

lunch 12:30-13:30 set menu, Chemistry Institute's Canteen  
(Please take meal voucher)

dinner 18:00-20:00 reception dinner, Han stonemason hot pot  
The third floor of Fangyuanhui Shopping Center  
(Please bring your badge)

## November 28

lunch 12:30-13:30 set menu, Chemistry Institute's Canteen  
(Please take meal voucher)

## November 29

lunch 12:30-13:30 buffet, Western restaurant on the 26th floor of the  
hotel (please take meal voucher)

## Conference Wi-Fi

wireless network name is: IHEP

browse a web, get a pop up registration page (if the registration page does not pop up, you can type *http://network.ihep.ac.cn* in the browser), select "4, meeting code" (as shown below), fill in with personal information and conference code: **LHAASO202311**, you can go online now.

The screenshot shows the first step of a four-step registration process. The steps are: 1. 选择用户类型 (Select User Type), 2. 用户验证 (User Validation), 3. 接入申请 (Access Request), and 4. 完成申请 (Complete application). The current step is highlighted with a green bar. Below the step indicator, there is a heading "选择用户类型 (Select User Type)" and a red "重要提示" (Important Notice) about wired network applications. A red heading "无线网络注册前, 请关闭注册设备的私有MAC/随机MAC" (Before wireless network registration, please turn off the private MAC/random MAC of the registration device) is followed by instructions in Chinese and English. A note in red text explains that personal information must be in the HR system. Below this, there are four radio button options: 1. 本所职工与本所学生 (Staff of IHEP) (必要条件), 2. 客座、外聘、联合培养学生 (Guest, external, joint training of students) (必要条件), 3. 短期来访 (有效时间为两周, 如需要更长时间网络服务, 请选择其他类型) (Visitor), and 4. 有会议代码 (Meeting Code). At the bottom, there is a checkbox for agreeing to the network environment regulations and a blue "继续 (Continue)" button.

1 选择用户类型 (Select User Type)

2 用户验证 (User Validation)

3 接入申请 (Access Request)

4 完成申请 (Complete application)

选择用户类型 (Select User Type)

**重要提示: 有线网络申请推荐使用待上网PC网线连接墙上上网口, 设置PC自动获取IP后填写申请信息**

**无线网络注册前, 请关闭注册设备的私有MAC/随机MAC**

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.

注: 选择前两种申请类型, 个人信息必须在高能所人力资源系统中。点击此处, 输入姓名查询, 如果没有查到, 请联系人事处 (职工) 或教育处 (学生), 把你加入到我们人力资源系统中。  
Note: Selecting the first two application types, personal information must be in the HR system of the Institute. Click here, enter your name query. If you don't find it, please contact the Human Resources Department (employee) or the Education Department (student) to add you to our HR system.

1、本所职工与本所学生 (Staff of IHEP) 必要条件

2、客座、外聘、联合培养学生 (Guest, external, joint training of students) 必要条件

3、短期来访 (有效时间为两周, 如需要更长时间网络服务, 请选择其他类型) (Visitor)

4、有会议代码 (Meeting Code)

我已阅读并同意遵守《高能所网络环境使用条例》, 查看协议  
I have read and agree to abide by the High Energy Institute Network Environment Regulations, view the agreement

继续 (Continue)

# Program

<b>2023/11/25 Morning</b>		
<b>9:00-9:50 Plenary talks</b>	<b>Chair: Dong Yuhui</b>	
Introduction of Participants(10')		
Leaders' Speech(10')		
Unveiling ceremony(10')		
Cao Zhen (10')		open address
Chen Songzhan (8'+2')		Physics Coordinator Committee work report
9:50-10:10 Group photo /coffee break 20'		
<b>10:10-12:10/Plenary and SNR</b>	<b>Chair: Chen Yang</b>	
Liu Siming (8'+2')		Publication Committee work report
Yang Ruizhi (8'+2')		Speakers Bureau work report
Ma Xinhua (8'+2')		Status of Joint Analysis between LHAASO and the Other Collaborations
Liu Siming (14'+10')		SNR summary
Zeng Houdun (12'+10')		Update on the analysis of the SNR G150.3+4.5
Zhang Xiao (12'+10')		LHAASO observation toward the SNR-HII complex G35.6-0.4
Wu Sha (12'+10')		Probing extreme particle acceleration in the SNR G106.3+2.7 region with LHAASO
<b>2023/11/25 Afternoon</b>		
<b>13:30-17:30</b>	<b>Chair: Cao Zhen</b>	<b>IB conference</b>
<b>2023/11/26 Morning</b>		
<b>8:30-10:10 /cosmic ray</b>	<b>Chair: He Huihai</b>	
Ma Lingling (14'+10')		Cosmic ray summary
YouZhiyong (14'+10')		Measurement of the cosmic ray proton spectrum around the knee region with LHAASO
WangLiPing (14'+10')		Measurement of the cosmic ray light component spectrum around the knee region with LHAASO
Guo Yiqing (18'+10')		A common origin of multi-messenger anomaly of galactic cosmic rays
10:10-10:30 coffee break (20')		
<b>10:30-12:15/others</b>	<b>Chair: Feng Cunfeng</b>	
Ma Xinhua(10'+5')		Progress of ENDA
Feng Xiaoting (10'+5')		Measurements of the muon content in EAS with muon detectors of LHAASO-KM2A
Liu Jia (10'+5')		Time structure of the extensive air shower Electron and Muon Components measured by LHAASO-KM2A
Cheng Xuejian(10'+5')		Temporal structure of secondary particles during thunderstorms with KM2A

Yin Liqiao+Yao Zhiguo (10'+5'+5')		Data Production
Zeng Shan (10'+5')		Data transfer updates and status
Li Haibo (10'+5')		The status of LHAASO computing platform
<b>2023/11/26 Afternoon</b>		
<b>13:30-14:38/Young Cluster</b>	<b>Chair: Zhou Hao</b>	
Yang Ruizhi (14'+10')		Young Cluster summary
Wang Guangwei (12'+10')		Observation of the $\gamma$ -ray Emission from the W43 Direction with LHAASO
Zhang Rui (12'+10')		Observation of LHAASO J1843-0338 : implication for the origin of its UHE gamma-ray emission
14:40-15:30 /poster	<b>Chair: Wu Sha</b>	
10*5'		poster presentations
15:30-15:40 coffee break (10')		
<b>15:40-17:15/poster</b>	<b>Chair: Yin Liqiao</b>	
19*5'		poster presentations
17:15-18:00		poster time
<b>2023/11/27 Morning</b>		
<b>8:30-10:00 /Binary</b>	<b>Chair:Zhou Jianeng</b>	
Tan Baixuan(14'+10')		Binary summary
Li Cong(12'+10')		Ultra-high energy gamma rays from black hole jet systems
Li Jian(12'+10')		LHAASO observation on SS 433, a hadronic PeVatron powered by microquasar?
Dong Xuqiang(12'+10')		Analysis of Gamma-ray Binaries LSI+61303 and LS5039 Utilizing LHAASO Detector
10:00-10:20 coffee break (20')		
<b>10:20-12:00/Diffuse</b>	<b>Chair: Zha Min</b>	
Yuan Qiang(14'+10')		Diffuse summary
Dmitri Semikoz(14'+10')		LHAASO measurement of Galactic Ridge
Guo Fulai (14'+10')		Fermi and eROSITA bubbles
Zhang Peipei (14'+10')		WCDA measurement of diffuse gamma rays
<b>2023/11/27 Afternoon</b>		
<b>13:30-14:40 /New Physics</b>	<b>Chair: Sheng Xiangdong</b>	
Bi Xiaojun(14'+10')		New Physics summary
Wei Junjie(18'+6')		Lorentz violation review report
Xiang Guangman(12'+10')		Stringent Tests of Lorentz Invariance Violation from LHAASO Observations of GRB 221009A
<b>14:40-15:30 / poster</b>	<b>Chair: Gao Wei</b>	
10*5'		poster presentations
15:30-15:40 coffee break		
<b>15:40-17:20/poster</b>	<b>Chair: Li Cong</b>	
20*5'		poster presentations
17:25-18:00		poster time
18:00-20:00	<b>Banquet</b>	

<b>2023/11/28 Morning</b>		
<b>8:30-10:12 /PWN</b>	<b>Chair: Li Zhuo</b>	
Liu Ruoyu (14'+10')		PWN summary
Chen Ensheng (14'+10')		Updated KM2A results of Geminga and Monogem
Li Zhe (14'+10')		Discovery of a giant peanut-shaped PeVatron below the Galactic plane
Yu Yanhong (10'+10')		LHAASO observation towards J0248+6021: another pulsar halo?
Wang Kai (10'+10')		Observation of a TeV Source in the Vicinity of PSR J1915+1150 by LHAASO
10:12-10:30 coffee break (18')		
<b>10:30-12:00 /Gamma-ray burst</b>	<b>Chair: Pei Zhiyuan</b>	
Mao Jirong(14'+10')		GRB summary
Zhao Xiaohong(12'+10')		external inverse Compton emission from multi-episode GRBs: the case of GRB 221009A
Zhang Binbin(12'+10')		Synchrotron Radiation Dominates the Extremely Bright GRB 221009A
Cao Wenyu(12'+10')		Search for Rapid Variability of GRB221009A with LHAASO-WCDA data
<b>2023/11/28 Afternoon</b>		
<b>13:30-15:22/Extra-galactic source</b>	<b>Chair:Yan Dahai</b>	
Wang Xiangyu(14'+10')		Extra- galactic source summary
Cheng Liang(12'+10')		Discovery of Multi-TeV Gamma-Ray Emissions from the Compact Symmetric Object NGC 4278 by LHAASO
Wang Ran(12'+10')		The flaring activities observed by LHAASO-WCDA from misaligned radio galaxies object NGC 1275
Zhang Haiming(12'+10')		OBSERVATION OF GAMMA-RAY EMISSION FROM THE GALAXIES M 87 AND 3C 264 ABOVE 1 TeV WITH LHAASO
Zhang Haiyun(16'+6')		Studying the patterns and origins of variability in AGN jet emissions using Gaussian processes
15:22-15:40 coffee break (18')		
<b>15:40-17:20</b>	<b>Chair:Zhou Xunxiu</b>	
Zeng Xiangtao(16'+6')		Multiwavelength study of blazars
STENKIN Yuri(10'+5')		On a possibility to record neutrino events with LHAASO
Liu Guoli(10'+5')		The Scientific Significance and Research Plan of the Detection of the ultra High Energy Cosmic Rays ( UHECR )
Zhang Qinyuan(10'+5')		Searching for UHECR-associated gamma-ray sources with LHAASO-WCDA

Yang Ci(10'+5')		Thunderstorm effects on shower rate with KM2A
Guo Kejun(10'+5')		Performance and meteorological effects with KM2A in Scaler mode
17:20-18:00		poster time
<b>2023/11/29 Morning</b>		
<b>8:30-10:22/Anisotropy</b>	<b>Chair: Cui Shuwang</b>	
Zhang Yi(14'+10')		Anisotropy physics summary
Gao Wei(12'+10')		Observation for the large-scale anisotropy of cosmic rays by LHAASO-KM2A
Liu Wei(12'+10')		Progress in measuring cosmic ray anisotropy using LHAASO-WCDA
He Jiayin(12'+10')		Searching for medium-scale anisotropies of cosmic rays with LHAASO-KM2A
David(12'+10')		Hourly measurement of cosmic ray anisotropy by WCDA around and above 1 TeV: Transient effects of an interplanetary flux rope during 2021 November
10:22-10:40 coffee break (18')		
<b>10:40-12:20 invited talk and close remark</b>	<b>Chair: Chen Songzhan</b>	
Su Yang (15'+10')		Radio observation on clouds
Li Jian (15'+10')		Fermi recent results
Zhou Ping (15'+10')		X-ray resource and research
Zha Min(10'+5')		Funding summary
Cao Zhen(10')		close remark & Best poster awards



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## The Outstanding Poster Award

### Poster Rules:

1. Originality: The poster must be original work and not copied from any other source.
2. Relevance: The content of the poster must be relevant to the theme or subject of the event.

### To the presenters :

- You are advised to post posters before 2:00 PM, November 25, 2023.
- You should be prepared to answer questions during the poster time.

### Voting Process:

- Expert Judges: Each member of the PCC in charge of each direction will serve as expert judges and will have a voting weight of 5.
- Public Judges: Other attendees **present at the meeting** will serve as public judges, with a voting weight of 1.

Each judge is allocated three votes. The top **five posters** with the highest total weighted scores from both the expert judges and the public judges will be awarded the Outstanding Poster Award.

### Voting Time:

Start: 3:00 PM, November 26, 2023

End: 6:00 PM, November 28, 2023

The following QR code is prepared for public judges. It will be available during the voting period.



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# Poster

2023/11/26 Afternoon 14:40-15:30

No.	Title	Name
POS-1	Study the variance of the mean logarithmic mass of cosmic rays in the knee region using LHAASO-KM2A	Hengying Zhang
POS-2	The precision measurements of all-particle spectrum and mean logarithmic mass of cosmic rays beyond 10PeV and below 300 TeV with LHAASO-KM2A	Hengying Zhang
POS-3	Measurements of the anisotropy of light nuclei using WCDA data	Dan Li
POS-4	Progress report on nuclei flux measurement	Hu Liu
POS-5	Angular power spectrum of the TeV-PeV cosmic ray anisotropy	Wenyi Bian
POS-6	Variations of small-scale CR Anisotropies with Time and Energy	Wenyi Bian
POS-7	Discrimination of Proton/Gamma Cosmic Ray using LHAASO-KM2A	Zhijie Li
POS-8	First observation of the moon shadow caused by the heavy cosmic ray nuclei	Lingling Ma
POS-9	Measurement of cosmic ray iron spectrum beyond 10 PeV with LHAASO	Lingling Ma
POS-10	The light-component anisotropy of cosmic rays with LHAASO-KM2A	Weiyang Zhang

2023/11/26 Afternoon 15:40-17:15

No.	Title	Name
POS-11	Status and Prospect of cosmic rays iron spectrum with energy from 100 TeV to 10 PeV measured by LHAASO	Suhong Chen
POS-12	The Observation of Solar Shadow and The Study of the Solar Magnetic Field with LHAASO	Jie Xia
POS-13	Influence of sun-moon shadows on the anisotropy of cosmic rays	Xuan ang Ye
POS-55	Study of the solar magnetic field using the cosmic-ray Sun shadow measured by KM2A	Yuncheng Nan
POS-56	Reconstructing Elemental Energy Spectra with LHAASO-KM2A	TianXiShui
POS-57	Energy reconstruction of large zenith angle cosmic rays	ChenLiFeng
POS-58	Energy Calibration of LHAASO-WCDA using Moon Shadow	mohsin
POS-14	Search for the Anisotropy of cosmic ray electrons using LHAASO-WCDA	Dongxu Sun
POS-15	constraining the anti-proton/proton ratio with WCDA moon shadow	Luyao Wang
POS-16	Searching for Transient Gamma-ray Sources with LHAASO-KM2A	Jiajun Huang
POS-17	"Mirages" and large offsets in the data as a result of asymmetric CR diffusion	Yiwei Bao
POS-18	Development of a lake array proposal for SWGO	Tianyang Li
POS-19	Mirror facets alignment calibration in WFCTA telescope	Yudong Wang
POS-20	The end-to-end Calibration of LHAASO-WFCTA based on Nitrogen Laser System	Qinning Sun
POS-21	Performance of LHAASO-KM2A on large zenith angles	Wenlian Li

POS-22	Fast Simulation of Muon Detector for Muons in High-Energy Cosmic Ray Air Showers	Xiaoxi Zhou
POS-23	VHE Galactic diffuse gamma-ray emission from discrete distributions of CR sources	Samy Kaci
POS-24	A new model for VHE CRs in our Galaxy and their diffuse gamma-ray emission	<b>Gwenael Giacinti</b>
POS-25	Search for VHE Gamma-Rays from the Northern Fermi Bubble with LHAASO-WCDA	Sida Li

**2023/11/27 Afternoon 14:40-15:30**

No.	Title	Name
POS-26	Study of Mrk501 with LHAASO-WCDA	Dixuan Xiao
POS-27	Constraining the jet composition of GRB 221009A with the prompt TeV emission limit	Cuiyuan Dai
POS-28	Low energy reconstruction of GRB221009A with LHAASO-WCDA	Ruiyi Tang
POS-29	LHAASO Observations on Pulsar Wind Nebula and TeV Halo	Ziwei Qu
POS-30	LHAASO 对 Geminga 脉冲星晕的观测进展	Hongfei Zhang
POS-31	Deciphering the Dual Components of LHAASO J2032	Chao-Ming Li
POS-32	Analysis of the Halo Candidate 1LHAASO J0359+5406 Based on LHAASO Observations	Renfeng Xu
POS-33	Asymmetric diffusion of Geminga pulsar halo	Yongjian Wei
POS-34	Detection of gamma-ray emission from CTA1 by LHAASO	Yong Huang
POS-35	Evolution of High-energy Electron Distribution in Pulsar Wind Nebulae	Yiming Liu

**2023/11/27 Afternoon 15:40-17:20**

No.	Title	Name
POS-36	Finding pulsar TeV halos among LHAASO sources	Dong Zheng
POS-37	Discovery of the Ultra-High-Energy gamma-ray source LHAASO J2002+3238 spatially associated with SNR G69.7+1.0	Bowen Hou
POS-38	Correlation between the gamma-ray spectral index and density of the background in SNRs	Yuan Li
POS-39	A potential TeV halo candidate in SNR G205 region observed by KM2A	Lingzhi Dong
POS-40	TeV emission toward SNR G57.2+0.8 (1LHAASO J1937+2128)	<b>Yang Su</b>
POS-41	Spectrum and Morphology of the Ultra-High-Energy Source LHAASO~J2018+3651	<b>Huicai Li</b>
POS-42	Updated observations of unidentified UHE source LHAASO J1908+0621	Shicong Hu
POS-43	Observation on SNR G065.1+00.6 region	Yu Luo
POS-44	Diffuse Gamma-Ray around G25 Region based on LHAASO KM2A and WCDA data	Qihang Wu
POS-45	Observations to Microquasar SS 433 with LHAASO	Hasan Mariam
POS-46	Discovery of the Very-High-Energy gamma-ray source LHAASO J1959+115 spatially associated with low mass X-ray binary 4U 1957+115	<b>Haoning He</b>

POS-47	Searching for dark matter annihilation signal in dwarf irregular galaxies with LHAASO data	Mingxuan Lu
POS-48	Search for dark matter gamma-ray emission from the Andromeda Galaxy with LHAASO Observations	Kang Jia
POS-49	Constraints on heavy dark matter from LHAASO gamma ray observations	Dylan Leung
POS-50	Gamma-ray glows detected by LHAASO-KM2A related to thunderstorms	Xiaopeng Zhang
POS-51	Investigating the thunderstorm events by LHAASO-WCDA data	<b>Cheng Liu</b>
POS-52	Possible observation on the 2024 outburst of recurrent nova T CrB with LHAASO	<b>Jian Li</b>
POS-53	Progress of thunderstorm effects on cosmic rays with LHAASO	Tian Zhou
POS-54	Measuring Diffuse Gamma-ray Emission by KM2A without Any Sky Regions Masked	Shiping Zhao
POS-59	Searching for neutrino signals correlated with LHAASO diffuse Galactic emission	Wenlian Li

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# Meeting Minutes

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