第九届中国 LHC 物理年会 The 9th China LHC Physics Workshop (CLHCP2023)

Report of Contributions

https://indico-tdli.sjtu.edu.cn/e/1616

Contribution ID: **1** Type: **not specified**

$\Xi_c - \Xi_c'$ mixing From Lattice QCD

Thursday, November 16, 2023 2:40 PM (20 minutes)

In heavy quark limit, the lowest-lying charmed baryons with two light quarks can form an SU(3) triplet and sextet. The Ξ_c in the SU(3) triplet and Ξ_c' in the sextet have the same J^{PC} quantum number and can mix due to the finite charm quark mass and the fact the strange quark is heavier than the up/down quark. We explore the Ξ_c-Ξ_c' mixing by calculating the two-point correlation functions of the Ξ_c and Ξ_c' baryons from lattice QCD. Based on the lattice data, we adopt two independent methods to determine the mixing angle between Ξ_c and Ξ_c'. After making the chiral and continuum extrapolation, it is found that the mixing angle θ is $1.2^\circ \pm 0.1^\circ$, which seems insufficient to account for the large SU(3) symmetry breaking effects found in weak decays of charmed baryons.

Primary author: LIU, Hang

Presenter: LIU, Hang

Session Classification: Theory

Contribution ID: **2** Type: **not specified**

Transverse-Momentum-Dependent Wave Functions of Pion from Lattice QCD

Thursday, November 16, 2023 3:20 PM (20 minutes)

We present a first lattice QCD calculation of the transverse-momentum-dependent wave functions (TMDWFs) of the pion using large-momentum effective theory. Numerical simulations are based on one ensemble with 2+1+1 flavors of highly improved staggered quarks action with lattice spacing a = 0.121 fm from the MILC Collaboration, and one with 2 +1 flavor clover fermions and tree-level Symanzik gauge action generated by the CLS Collaboration with a = 0.098 fm. As a key ingredient, the soft function is first obtained by incorporating the one-loop perturbative contributions and a proper normalization. Based on this and the equal-time quasi-TMDWFs simulated on the lattice, we extract the light-cone TMDWFs. The results are comparable between the two lattice ensembles and a comparison with phenomenological parametrization is made. Our studies provide a first attempt of ab initio calculation of TMDWFs which will eventually lead to crucial theory inputs for making predictions for exclusive processes under QCD factorization.

Primary author: Mr CHU, Minhuan (Shanghai Jiao Tong University)

Co-author: WANG, Wei

Presenter: Mr CHU, Minhuan (Shanghai Jiao Tong University)

Session Classification: Theory

Contribution ID: **3** Type: **not specified**

Factorization of Non-Global LHC Observables and Resummation of Super-Leading Logarithms

Thursday, November 16, 2023 2:00 PM (20 minutes)

We present a systematic formalism based on a factorization theorem in soft-collinear effective theory to describe non-global observables at hadron colliders, such as gap-between-jets cross sections. The cross sections are factorized into convolutions of hard functions, capturing the dependence on the partonic center-of-mass energy, and low-energy matrix elements, which are sensitive to the low scale characteristic of the veto imposed on energetic emissions into the gap between the jets. The scale evolution of both objects is governed by a renormalization-group equation, which we derive at one-loop order. By solving the evolution equation for the hard functions for arbitrary 2⟶M jet processes in the leading logarithmic approximation, we accomplish for the first time the all-order resummation of the so-called "super-leading logarithms" discovered in 2006, thereby solving an old problem of quantum field theory. We study the numerical size of the corresponding effects for different partonic scattering processes and explain why they are sizable for pp⟶2jets processes, but suppressed in H/Z+jet production. The super-leading logarithms are given by an alternating series, whose individual terms can be much larger than the resummed result, even in very high orders of the loop expansion. Resummation is therefore essential to control these effects. We find that the asymptotic fall-off of the resummed series is much weaker than for standard Sudakov form factors.

Primary author: SHAO, Dingyu (Fudan University)

Presenter: SHAO, Dingyu (Fudan University)

Session Classification: Theory

Contribution ID: **5** Type: **not specified**

Constraint for a light charged Higgs boson and its neutral partners from top quark pairs at the LHC

Thursday, November 16, 2023 2:00 PM (20 minutes)

The charged Higgs boson plays an essential role in distinguishing between a wide variety of standard model extensions with multiple Higgs doublets. We study the prospect of a light charged Higgs boson, produced by top quark pairs at the Large Hadron Collider (LHC), and decaying into a W boson and a pair of bottom quarks via an intermediate neutral Higgs boson (H_i). We reinterpret the cross sections of $WWbb\bar{b}\bar{b}$ final states measured by the ATLAS collaboration at LHC 13 TeV in the presence of the aforementioned decay, in a relatively wide range of Higgs masses. We find improved agreements with the data and obtain limits on the total branching ratio of the decay chain. The limits impose the strongest constraints on the parameter space of type-I two-Higgs-doublet model for most Higgs masses sampled when H_i is the CP-odd Higgs boson A. We also calculate potential constraints with pseudodata in high-luminosity runs of the LHC.

Primary authors: GAO, Jun; 傅, 淳浩

Presenter: 傅, 淳浩

Session Classification: TeV

Contribution ID: **6** Type: **not specified**

Automated calculation of Jet fragmentation at NLO in QCD

Thursday, November 16, 2023 3:40 PM (20 minutes)

We present FMNLO, a framework to combine general-purpose Monte Carlo generators and fragmentation functions (FFs). It is based on a hybrid scheme of phase-space slicing method and local subtraction method, and accurate to next-to-leading order (NLO) in QCD. The new framework has been interfaced to MG5_aMC@NLO and made publicly available in this work. We demonstrate its unique ability by giving theoretical predictions of various fragmentation measurements at the LHC, followed by comparison with the data. With the help of interpolation techniques, FMNLO allows for fast calculation of fragmentation processes for a large number of different FFs, which makes it a promising tool for future fits of FFs. As an example, we perform a NLO fit of parton fragmentation functions to unidentified charged hadrons using measurements at the LHC. We find the ATLAS data from inclusive dijet production show a strong constraining power. Notable disparities are found between our gluon FF and that of BKK, DSS and NNFF, indicating the necessities of additional constraints and data for gluon fragmentation function.

Primary authors: 刘, 重阳 (上海交通大学粒子物理与核物理研究所); 沈, 晓民 (上海交通大学粒子物理与核物理研究所); Dr 周, 斌 (上海交通大学粒子物理与核物理研究所); Prof. 高, 俊 (上海交通大学粒子物理与核物理研究所)

Presenter: 刘, 重阳 (上海交通大学粒子物理与核物理研究所)

Session Classification: Theory

Contribution ID: **7** Type: **not specified**

Probing the spin-dependent fragmentation function in unpolarized pp and AA collisions at the LHC (Remote)

Friday, November 17, 2023 4:20 PM (20 minutes)

The longitudinal spin transfer represents the probability density of producing longitudinally polarized hadrons from longitudinally polarized quarks or circularly polarized gluons. It thus was usually measured in polarized reactions or high-energy collisions where weak interaction dominates. In this work, we propose the dihadron polarization correlation as a novel probe of this quantity. Such an observable does not require the fragmenting partons to be polarized and therefore can be measured in the currently available experimental facilities, such as Belle, RHIC, Tevatron, and the LHC. We make quantitative predictions for these experiments. In light of the data already harvested, the experimental investigation of this observable provides more opportunity for the quantitative study of the longitudinal spin transfer. In particular, the measurements in pp collisions can significantly constrain the fragmentation function of a circularly polarized gluon.

References

[1] Probing the longitudinal spin transfer via dihadron polarization correlations in unpolarized e^+e^- and pp collisions, Hao-Cheng Zhang, Shu-Yi Wei, Phys. Lett. B 839 (2023) 137821.
[2] X. Li, Z.X. Chen, S. Cao, S.Y. Wei, arXiv:2309.09487 (2023).

Primary author: Prof. WEI, Shu-Yi (Shandong University)

Presenter: Prof. WEI, Shu-Yi (Shandong University)

Session Classification: Theory

Contribution ID: **8** Type: **not specified**

Nonperturbative fitting in resummation calculation

Thursday, November 16, 2023 3:00 PM (20 minutes)

The resummation calculation (ResBos) is a widely used tool for the simulation of single vector boson production at colliders. As the improvement over the ResBos code by increasing the accuracy from NNLL+NLO to N^3LL+NNLO, the nonperturbative function needs to be updated. We propose a new non-perturbative function (IFY) that includes information about the rapidity of the system. The IFY functional form was fitted to data from fixed target experiments, the Tevatron, and the LHC. We find that the non-perturbative function has mild rapidity dependence based on the results of the fit.

Primary authors: Dr ISAACSON, Josh (Fermi National Accelerator Laboratory); FU, Yao (University of Science and Technology of China); Prof. YUAN, C.-P. (Michigan State University)

Presenter: FU, Yao (University of Science and Technology of China)

Session Classification: Theory

Contribution ID: **9** Type: **not specified**

Top pair production in association with a W boson at the LHC

This presentation provides a phenomenological analysis of the production of $t\bar{t}W$ and $t\bar{t}Wj$ in the context of the Standard Model at the LHC with a center-of-mass energy of √s = 13 TeV. The analysis is focused on investigating various aspects of the computation, such as the impact of employing different theoretical modeling approaches, cross section ratio $\sigma_{t\bar{t}W^+}/\sigma_{t\bar{t}W^-}$, and the charge asymmetries.

Primary authors: HERIBERTUS, Bayu Hartanto; FEBRES CORDERO, Fernando; BEVILACQUA, Giuseppe; NASUFI, Jasmina; REINA, Laura; WOREK, Malgorzata; KRAUS, Manfred; 毕, 环宇 (北京大学)

Presenter: 毕, 环宇 (北京大学)

Session Classification: Theory

Contribution ID: **10** Type: **not specified**

Production and Decay of Top Quarks at Lepton Colliders at N3LO in QCD

Thursday, November 16, 2023 2:20 PM (20 minutes)

In this talk we will discuss the recent processes in the calculation of the high-order perturbative corrections to the semi-inclusive production and decay of top quarks at lepton colliders at N3LO in QCD. In particular, the talk will be focusing on the first high-precision calculation of the complete QCD corrections to the top-quark decay width Γ_t, W-helicity fractions and semi-inclusive distributions to the third order in the strong coupling constant α_s. We find, in particular, that the pure $\mathcal{O}(\alpha_s^3)$ correction decreases Γ_t by 0.8% of the previous $\mathcal{O}(\alpha_s^2)$ result, exceeding considerably the error estimated by the usual scale-variation prescription. With this critical piece of correction included, we arrive at the to-date most precise theoretical prediction which meets the envisaged precision request by future hadron and lepton colliders.

Primary authors: Dr CHEN, Long (Shandong University); Dr CHENG, Xiang (Peking University); Dr GUAN, Xin (Peking University); Prof. MA, Yan-Qing (Peking University)

Presenter: Dr CHEN, Long (Shandong University)

Session Classification: Theory

Contribution ID: **11** Type: **not specified**

Operators Correlation in Electroweak Scattering at LHC

Saturday, November 18, 2023 8:30 AM (20 minutes)

To probe new physics without prior assumptions on UV models, the correlation of operators could be crucial in exposing the structure of UV completion.
When operators arise from the same heavy resonance, they are likely to correlate and their Wilson coefficients exhibit non-trivial relation, since both of them depend on the same UV parameters.
The aim of EFT analysis is to discover the correlation among operators, which might shed lights on UV completion.
For specific, if a precise measurement is consistent with the SM theory prediction, it might originate from a coherent cancellation among higher dimensional operators.
In this work, we investigate a strongly correlated cancellation of operators in electroweak scattering and attempt to expose the corresponding UV structure.
We also examine the operators correlation through a coupled channel analysis method and demonstrate that this correlation persists even when considering the uncertainties at HL-LHC.
On the other hand, since the operators connect different scattering channels through the reduction of H into v or h, the operators correlation in single top production will predict the total cross section of thq production, and the correlation in $pp \to h\gamma$ can precisely examine the new physics effects of the indirect search on the weak magnetic moment a_W.

Primary author: DING, Jian-Nan (Peking University)

Co-authors: YU, Fu-Sheng (Lanzhou University); Prof. CAO, Qing-Hong (Peking University)

Presenter: DING, Jian-Nan (Peking University)

Session Classification: Theory

Contribution ID: **12** Type: **not specified**

Upgrade of Chinese LHCb Tier1 Site

The report will introduce the construction status of the first LHCb (WLCG) tier1 site in China. The content will refer the progress of requesting the tier1 site, the site scalability, the current status and future work. The site is built under the cooperation of Chinese LHCb Collobaration and IHEP computing center.

Primary author: JIANG, Xiaowei (IHEP)

Presenter: JIANG, Xiaowei (IHEP)

Session Classification: Theory

Contribution ID: **13** Type: **not specified**

Probing positivity at LHC with exclusive photon-fusion processes

Saturday, November 18, 2023 8:50 AM (20 minutes)

By tagging one or two intact protons in the forward direction, it is possible to select and measure exclusive photon-fusion processes at the LHC. The same processes can also be measured in heavy ion collisions, and are often denoted as ultraperipheral collisions (UPC) processes. Such measurements opens up the possibility to probe certain dimension-8 operators and their positivity bounds at the LHC. As an demonstration, we perform a phenomenological study on the $\gamma\gamma \to \ell^+\ell^-$ processes, and find out that the measurements of this process at the HL-LHC provides reaches on certain dimension-8 operator coefficients that are comparable to the ones at future lepton colliders. We also point out that the $\gamma q \to \gamma q$ process could potentially have better reaches on similar types of operators due to its larger cross section, but a more detailed experimental study is need to estimate the background of this process. The validity of effective field theory (EFT) and the robustness of the positivity interpretation are also discussed.

Primary authors: SHU, Chi (Fudan University); Prof. GU, Jiayin (Fudan University)

Presenter: SHU, Chi (Fudan University)

Session Classification: Theory

Contribution ID: **14** Type: **not specified**

Possible large CP violation in charmed Lambda_b decays

Sunday, November 19, 2023 5:00 PM (20 minutes)

We propose that the cascade decay $\Lambda_b \to D(\to K^+\pi^-)N(\to p\pi^-)$ may serve as the discovery channel for baryonic CP violation. This decay chain is contributed by dominantly the amplitudes with the intermediate D state as D^0 or $\bar{D}^0$. The large weak phase between the two kinds of amplitudes suggests the possibility of significant CP violation. While the presence of undetermined strong phases may complicate the dependence of CP asymmetry, our phenomenological analysis demonstrates that CP violation remains prominent across a broad range of strong phases. The mechanism also applies to similar decay modes such as $\Lambda_b \to D(\to K^+K^-)\Lambda$. Considering the anticipated luminosity of LHCb, we conclude that these decay channels offer a promising opportunity to uncover CP violation in the baryon sector.

Primary author: SHEN, Yin-Fa (HUST)

Co-authors: Mr WANG, Jian-Peng (Lanzhou Univeristy); Dr QIN, Qin (Huazhong University of Science and Technology)

Presenter: SHEN, Yin-Fa (HUST)

Session Classification: Theory

Contribution ID: **15** Type: **not specified**

Double-mixing CP violation

Sunday, November 19, 2023 5:40 PM (20 minutes)

We propose a new kind of CP violation effect —the double-mixing CP asymmetry —in a type of cascade decays that involves at least two mixing neutral mesons in the decay chain. It is induced by the interference between different oscillation paths of the neutral mesons in the decay process. The double-mixing CP asymmetry is of critical importance for phenomenology, providing opportunities for clean determination of CKM phase angles free of uncertainties induced by the strong dynamics. To illustrate this point, we perform a phenomenological analysis on two examples: $B_s^0 \to \rho^0 K \to \rho^0(\pi^-\ell^+\nu_\ell)$ and $B^0 \to D^0 K \to D^0(\pi^+\ell^-\bar{\nu}_\ell)$. Our results demonstrate that the double-mixing CP asymmetry can be numerically significant in the absence of strong phases, as shown by the former example. Additionally, the latter example showcases the direct extraction of weak and strong phases from data, without the need for theoretical inputs.

Primary author: SHEN, Yin-Fa

Co-authors: Dr QIN, Qin (Huazhong University of Science and Technology); SONG, wen jie (华中科技大学)

Presenter: SONG, wen jie (华中科技大学)

Session Classification: Theory

Contribution ID: **16** Type: **not specified**

Higgs boson pair production and decay to $b\bar{b}\gamma\gamma$ at NLO in QCD

Thursday, November 16, 2023 4:20 PM (20 minutes)

We calculate the total cross-section and differential distributions of Higgs boson pair production and decay to $b\bar{b}\gamma\gamma$ at NLO in QCD.

Primary authors: ZHAO, Dan (山东大学); LI, Haitao (haitao.li@sdu.edu.cn); WANG, Jian (Shandong University); Prof. SI, Zongguo (shandong university); Mr ZHANG, xiao (shandong university)

Presenter: ZHAO, Dan (山东大学)

Session Classification: TeV

Contribution ID: **17** Type: **not specified**

Higgs properties and new physics beyond the SM

The discovery of the Higgs boson at the Large Hadron Collider (LHC) has opened a new era in particle physics. Precise measurements of the properties of the Higgs boson are crucial for addressing several fundamental questions in the field. These include understanding the mechanism behind electroweak symmetry breaking, unraveling the origin of particle masses, and exploring potential sources of CP violation
that could explain the matter-antimatter asymmetry in the universe, and so on. In this talk, I will provide an overview of the recent advancements in Higgs physics, both within the framework of the Standard Model (SM) and beyond. By examining the latest research, we will gain insights into the properties and behavior of the Higgs boson,
shedding light on the fundamental workings of the universe.

Primary author: Prof. YAN, Bin (IHEP)

Presenter: Prof. YAN, Bin (IHEP)

Session Classification: Plenary Session

Contribution ID: **18** Type: **not specified**

Partial NLO electroweak corrections to Higgs pair production in gluon fusion

Thursday, November 16, 2023 2:20 PM (20 minutes)

We calculated partial SM NLO electroweak corrections to Higgs pair production in gluon fusion, which are proportional to triple Higgs self-interacting constant. Then we did the same calculations with the Standard Model Effective Field Theory (SMEFT) dimension-6 Higgs self-interacting operators, and calculated the cross sections corresponding to different SMEFT parameters.

Primary authors: LI, Haitao (haitao.li@sdu.edu.cn); WANG, Jian (Shandong University); SI, Zongguo (shandong university); ZHANG, xiao (ShanDong University); 赵, 丹 (山东大学)

Presenter: ZHANG, xiao (ShanDong University)

Session Classification: TeV

Contribution ID: **19** Type: **not specified**

Probing Inelastic Dark Matter at the LHC, FASER and STCF

Friday, November 17, 2023 2:40 PM (20 minutes)

In this talk, we explore the potential of probing the inelastic dark matter (DM) model with an extra $U(1)_D$ gauge symmetry at the Large Hadron Collider, ForwArd Search ExpeRiment and Super Tau Charm Factory. To saturate the observed DM relic density, the mass splitting between two light dark states has to be small enough, and thus leads to some distinctive signatures at these colliders. By searching for the long-lived particle, the displaced muon-jets, the soft leptons, and the mono-photon events, we find that the inelastic DM mass in the range of 1 MeV to 210 GeV could be tested.

Primary author: Prof. LU, Chih-Ting (Nanjing Normal University)

Co-authors: Mr TU, Jianfeng (Nanjing Normal University); WU, Lei (Nanjing Normal Univeristy)

Presenter: Prof. LU, Chih-Ting (Nanjing Normal University)

Session Classification: Theory

Contribution ID: **20** Type: **not specified**

Hybrid Renormalization for Quasi Distribution Amplitudes of A Light Baryon

Friday, November 17, 2023 4:40 PM (20 minutes)

We develop a hybrid scheme to renormalize quasi distribution amplitudes of a light baryon on the lattice, which combines the self-renormalization and ratio scheme. By employing self-renormalization, the UV divergences and linear divergence at large spatial separations in quasi distribution amplitudes are removed without introducing extra nonperturbative effects, while making a ratio with respect to the zero-momentum matrix element can properly remove the UV divergences in small spatial separations. As a specific application, distribution amplitudes of the Λ baryon made of uds are investigated, and the requisite equal-time correlators, which define quasi distribution amplitudes in coordinate space, are perturbatively calculated up to the next-to-leading order in strong coupling constant αs. These perturbative equal-time correlators are used to convert lattice QCD matrix elements to the continuum space during the renormalization process. Subsequently, quasi distribution amplitudes are matched onto lightcone distribution amplitudes by integrating out hard modes and the corresponding hard kernels are derived up to next-to-leading order in αs including the hybrid counterterms. These results are valuable in the lattice-based investigation of the lightcone distribution amplitudes of a light baryon from the first principles of QCD.

Primary authors: HAN, Chao; ZHANG, Jialu (上海交通大学); WANG, Wei; Mr SU, Yushan (University of Maryland)

Presenter: ZHANG, Jialu (上海交通大学)

Session Classification: Theory

Contribution ID: **21** Type: **not specified**

B meson anomalies and large $B^+ \to K^+\nu\bar{\nu}$ in non-universal $U(1)'$ models

Friday, November 17, 2023 2:00 PM (20 minutes)

In view of both the latest LHCb measurement of $R_{K^{(*)}}$ and the new 2.8σ deviation reported by Belle II on $B^+ \to K^+\nu\bar{\nu}$ decays, we present a fit to the B meson anomalies for various one and two dimensional hypothesis including complex Wilson coefficients. We show in a model-independent way that the generic non-universal $U(1)'$ extensions of the SM, without flavour violation, fail to simultaneously fit those observables and corroborate that they can modify $\mathrm{BR}(B^+ \to K^+\nu\bar{\nu})$ up to only a 10%. In view of this deficit, we propose a new way in which those models can accommodate the data at tree level by introducing lepton flavour violating couplings and non-diagonal elements of the charged lepton mixing matrix, with implications in future charged lepton flavour violation searches.

Primary author: SIERRA FONSECA, CRISTIAN FELIPE (Nanjing Normal University)

Co-authors: ATHRON, Peter (Nanjing Normal University); Prof. MARTINEZ, Roberto (Universidad Nacional de Colombia)

Presenter: SIERRA FONSECA, CRISTIAN FELIPE (Nanjing Normal University)

Session Classification: Theory

Contribution ID: **22** Type: **not specified**

Resolving negative cross section of quarkonium hadroproduction using soft gluon factorization

Sunday, November 19, 2023 2:00 PM (20 minutes)

It was found that, using nonrelativistic QCD factorization, the predicted χ_{cJ} hadroproduction cross section at large p_T can be negative. The negative cross sections originate from terms proportional to plus function in ${}^3P_J^{[1]}$ channels, which are remnants of the infrared subtraction in matching the ${}^3P_J^{[1]}$ short-distance coefficients. In this article, we find that the above terms can be factorized into the nonperturbative ${}^3S_1^{[8]}$ soft gluon distribution function in the soft gluon factorization (SGF) framework. Therefore, the problem can be naturally resolved in SGF. With an appropriate choice of nonperturbative parameters, the SGF can indeed give positive predictions for χ_{cJ} production rates within the whole p_T region. The production of $\psi(2S)$ is also discussed, and there is no negative cross section problem.

Primary author: CHEN, An-Ping (Jiangxi Normal University)

Co-authors: MA, Yan-Qing (Peking University); Prof. MENG, Ce (Peking University)

Presenter: CHEN, An-Ping (Jiangxi Normal University)

Session Classification: HF/HI/QCD

Contribution ID: **23** Type: **not specified**

Cosmological Phase Transitions in Composite Higgs Models

Sunday, November 19, 2023 2:00 PM (20 minutes)

We investigate cosmological phase transitions in various composite Higgs models consisting of four-dimensional asymptotically-free gauge field theories. Each model may lead to a confinement-deconfinement transition and a phase transition associated with the spontaneous breaking of a global symmetry that realizes the Standard Model Higgs field as a pseudo-Nambu-Goldstone boson. Based on the argument of universality, we discuss the order of the phase transition associated with the global symmetry breaking by studying the renormalization group flow of the corresponding linear sigma model at finite temperature, which is calculated by utilizing the ε-expansion technique at the one-loop order. Our analysis indicates that some composite Higgs models accommodate phenomenologically interesting first-order phase transitions.

Primary authors: FUJIKURA, KOHEI (U. Tokyo); NAKAI, Yuichiro; Prof. SATO, Ryosuke (Osaka University); WANG, Yaoduo (TDLI, SJTU)

Presenter: WANG, Yaoduo (TDLI, SJTU)

Session Classification: Theory

Contribution ID: **24** Type: **not specified**

Theoretical Motivations for Hidden Light Bosons

Thursday, November 16, 2023 4:40 PM (20 minutes)

The physics beyond the Standard Model (BSM) could be represented by a hidden sector at relatively low energy scales MeV-GeV and feeble couplings to SM. Their presence in our Universe would be revealed through indirect evidences such as small oscillations of SM parameters, cosmological and astrophysical considerations, and the complementary searches in accelerators. Here, I give an overview of these BSM models including axions and hidden photons.

Primary author: Prof. VISINELLI, Luca (Shanghai Jiao Tong University)

Presenter: Prof. VISINELLI, Luca (Shanghai Jiao Tong University)

Session Classification: Theory

Contribution ID: **25** Type: **not specified**

Neutrino as a window to TeV physics: from LHC to low-energy experiments

I will talk about the roles of LHC and low-energy (high-precision) experiments in searching for new physics at the TeV scale by studying the properties and interactions of neutrinos.

Primary author: LI, Gang (Sun Yat-Sen University)

Presenter: LI, Gang (Sun Yat-Sen University)

Session Classification: Plenary Session

Contribution ID: **26** Type: **not specified**

Dark photon effects with the kinetic and mass mixing in $Z \to \tau^-\tau^+$

Friday, November 17, 2023 3:00 PM (20 minutes)

A new $U(1)_X$ gauge boson field X can have renormalizable kinetic mixing with the standard model (SM) $U(1)_Y$ gauge boson field Y. Besides the dark photon kinetic mixing σ, there could be mass mixing by introducing the additional Higgs doublet with vev engaging in $U(1)_X$ and electroweak symmetry breaking simultaneously. The Z boson interaction with SM tau lepton is modified by defining the mixing ratio parameter ϵ, which shows the magnitude of the mass and kinetic mixing of dark photon. We investigate the Z boson phenomenology of dark photon model with both the kinetic mixing and mass mixing. The allowed parameter region is obtained by analyzing these constraints from the vector and axial-vector couplings $g^\tau_{V,A}$, the decay branching ratio $Br(Z \to \tau^-\tau^+)$ and tau lepton polarization in $Z \to \tau^-\tau^+$. We found that the mixing ratio plays important role in the Z boson features by choosing different ϵ values.
Further, we attempt to find the common regions to satisfy these above four bounds for $m_X > m_Z$ and $m_X < m_Z$.
However, the regions allowed by g^τ_A and $Br(Z \to \tau^-\tau^-)$ tends to the opposite direction so that there are not viable parameter spaces within 2σ errors. The problem can be solved within 3σ errors.

Primary authors: SUN, Jin (Shanghai Joao Tong University); XING, zhi-peng (njnu)

Presenter: XING, zhi-peng (njnu)

Session Classification: Theory

Contribution ID: **27** Type: **not specified**

Probing the Higgs trilinear self-coupling through Higgs+jet production

Friday, November 17, 2023 4:20 PM (20 minutes)

We present the calculation of the next-to-leading order corrections for Higgs+jet production at the Large Hadron Collider, that arise from the Higgs trilinear self-coupling (λ_{HHH}).
We use the method of large top-quark mass expansion to tackle the challenging two-loop virtual amplitude, and apply the Pad\'{e} approximation to extend the region of convergence of this expansion.
We find that the λ_{HHH}-related corrections amount to 0.66% for the total cross section. For the invariant mass distribution and Higgs boson transverse momentum distribution, the corrections are mostly in the range $0.5\% \sim 0.7\%$. Our results can be used to set extra constraints on λ_{HHH} from the experimental data.

Primary author: 周, 斌 (上海交通大学)

Presenter: 周, 斌 (上海交通大学)

Session Classification: TeV

Contribution ID: **28** Type: **not specified**

$B_{(s)} \to D^{**}_{(s)}$ form factors in HQEFT and model independent analysis of relevant semileptonic decays with NP effects

Sunday, November 19, 2023 4:40 PM (20 minutes)

The form factors of $B_{(s)}$ decays into P-wave excited charmed mesons (including $D_0^*(2300)$, $D_1(2430)$, $D_1(2420)$, $D_2^*(2460)$ and their strange counterparts, denoted generically as $D^{**}_{(s)}$) are systematically calculated via QCD sum rules in the framework of heavy quark effective field theory (HQEFT). We consider contributions up to the next leading order of heavy quark expansion and give all the relevant form factors, including the scalar and tensor ones only relevant for possible new physics effects. The expressions for the form factors in terms of several universal wave functions are derived via heavy quark expansion. These universal functions can be evaluated through QCD sum rules. Then, the numerical results of the form factors are presented. With the form factors given here, a model independent analysis of relevant semileptonic decays $B_{(s)} \to D^{**}_{(s)} l \bar{\nu}_l$ is performed, including the contributions from possible new physics effects. Our predictions for the differential decay widths, branching fractions and ratios of branching fractions $R(D^{**}_{(s)})$ may be tested in more precise experiments in the future.

Primary author: Dr 左, 亚兵 (辽宁师范大学)

Co-authors: Ms 宫, 涵宇 (辽宁师范大学); Ms 金, 洪瑶 (辽宁师范大学); Ms 伊, 佳 (辽宁师范大学); Ms 田, 婧赢 (辽宁师范大学); Ms 潘, 婷婷 (辽宁师范大学)

Presenter: Dr 左, 亚兵 (辽宁师范大学)

Session Classification: Theory

Contribution ID: **29** Type: **not specified**

Muon collider signatures for a Z' with a maximal $\mu - \tau$ coupling in $U(1)_{L_\mu - L_\tau}$

Sunday, November 19, 2023 6:00 PM (20 minutes)

Primary author: Dr HUANG, Fei (UJN)

Presenter: Dr HUANG, Fei (UJN)

Session Classification: Theory

Contribution ID: **30** Type: **not specified**

Precise prediction for the top quark width

Friday, November 17, 2023 5:20 PM (20 minutes)

We present the first analytic results of N3LO QCD corrections to the top-quark decay width. We focus on the dominant leading color contribution, which includes light-quark loops. At NNLO, this dominant contribution accounts for 95% of the total correction. The most precise prediction for the top-quark width is now 1.321 GeV for mt = 172.69 GeV.

Primary author: 王, 烨凡 (Shandong university)

Presenter: 王, 烨凡 (Shandong university)

Session Classification: Theory

Contribution ID: **31** Type: **not specified**

Lattice study of singlet-assisted electroweak phase transition

Sunday, November 19, 2023 2:20 PM (20 minutes)

In this study, we use lattice to reveal nonperturbative information of the electroweak phase transition in the real-singlet extension of the Standard Model, based on the 2-loop 3D EFT framework.

Importantly, the new information is that the lattice determines the true nature of the electroweak phase transition, capable to identify it as the first order type or not, an important qualitative behavior to which perturbation theory is blind. In scenarios where perturbation theory implies a weakly first order phase transition, lattice is always more reliable than the perturbation theory. In this regime, the symmetry-breaking transition may be crossover rather than a true phase transition. On the other hand, for strong transitions, both methods yield quantitatively close results, particularly when 2-loop perturbation theory is used.

This nonperturbative framework holds potential for other Higgs-sector extensions of the SM. Besides, by holding two powerful tools, 2-loop perturbation scanning and lattice, we will explore associated phenomenology in the future.

Primary authors: XIA, Guotao (TDLI, SJTU); Dr NIMIE, Lauri; Prof. RAMSEY-MUSOLF, Michael J.

Presenter: XIA, Guotao (TDLI, SJTU)

Session Classification: Theory

Contribution ID: **32** Type: **not specified**

Observation of new structure in the J/ψJ/ψ mass spectrum in proton-proton collisions at √s = 13 TeV

A search is reported for near-threshold structures in the J/ψJ/ψ invariant mass spectrum produced in proton-proton collisions at √s = 13 TeV from data collected by the CMS experiment, corresponding to an integrated luminosity of 135 fb−1. A new structure is observed with a significance above 5 standard deviations at a mass of 6552 ± 10 (stat) ± 12 (syst) MeV. Another structure with even higher significance is found at a mass of 6927 ± 9 (stat) ± 4 (syst) MeV, which is consistent with the X(6900) resonance reported by the LHCb experiment and confirmed by the ATLAS experiment. Evidence for another new structure, with a local significance of 4.1 standard deviations, is found at a mass of 7287+20 −18 (stat) ± 5 (syst) MeV. The masses and significances are obtained in a model without considering possible quantum mechanical interference between the resonances. Incorporating this interference provides a better description of the mass spectrum between the resonances and shifts the measured masses by up to 150 MeV.

Primary author: WANG, Xining (Tsinghua University)

Presenter: WANG, Xining (Tsinghua University)

Session Classification: Theory

Contribution ID: **33** Type: **not specified**

Electroweak sphalerons, scalar multiplets, and symmetry breaking patterns

Sunday, November 19, 2023 3:00 PM (20 minutes)

In this study, we present a comprehensive analysis of the electroweak sphaleron formalism and its application to electroweak phase transition (EWPT) patterns in extensions of the Standard Model scalar sector with electroweak multiplets. We offer an equivalence proof for different choices for the form of sphaleron configurations; construct the previously unestablished high-dimensional SU(2) sphaleron transformation matrix; investigate the scalar multiplet topology map and baryon number charge relation; and revisit the required boundary conditions needed for solving the sphaleron field equations. We then scrutinize the leading order sphaleron dynamics in the context of a multi-step EWPT. We showcase two distinct analytical approaches for extending the SU(2) scalar multiplet to the standard model (SM) under differing EWPT scenarios, and perform an explicit calculation of the sphaleron energy using a septuplet example. In the context of a single-step EWPT leading to a mixed phase, we find that the additional multiplet's contribution to the sphaleron energy is negligible, primarily due to the prevailing constraint imposed by the ρ parameter. Conversely, in a two-step EWPT scenario, the sphaleron energy can achieve significantly high values during the initial phase, thereby markedly preserving baryon asymmetry if the universe undergoes a first-order EWPT. In both cases, we delineate the relationship between the sphaleron energy and the parameters relevant to dark matter phenomenology.

Primary authors: WU, Yanda (TDLI, SJTU); Dr ZHANG, Wenxing (TDLI/SJTU); Prof. RAMSEY--MUSOLF, Michael (TDLI/SJTU)

Presenter: WU, Yanda (TDLI, SJTU)

Session Classification: Theory

Contribution ID: **34** Type: **not specified**

Search for Higgs boson pair production in the bbμμ final state at the LHC (Remote)

Friday, November 17, 2023 3:15 PM (20 minutes)

The Higgs boson pair production via gluon-gluon fusion and vector boson fusion in the bbμμ final state at the LHC is studied to probe the Higgs self-coupling κλ and the four-boson HHVV coupling κ2V for the first time. A cut-based analysis and a machine-learning analysis using boosted decision trees are performed with categorizations and optimizations depending on the variations of these couplings. The expected sensitivities are extracted with different integrated luminosities assumed up to the full highluminosity LHC runs. The expected upper limit at 95% confidence level on the Higgs boson pair production is calculated as 47 (28) times the Standard Model cross section using the cut-based method (boosted decision trees) for the gluon-gluon fusion production and 928 for the vector boson fusion production, assuming an integrated luminosity of 3000 fbˆ−1. The expected constraints on the couplings at 95% confidence level are calculated to be −13.8 < κλ < 19.1 (−10.0 < κλ < 15.5) and −3.4 < κ2V < 5.5 using the cut-based method (boosted decision trees), respectively, assuming an integrated luminosity of 3000 fb−1.

Primary author: GUO, Botao (Peking University)

Presenter: GUO, Botao (Peking University)

Session Classification: TeV

Contribution ID: **35** Type: **not specified**

MatchingEFT.jl: An Automated Tool for Tree and One-Loop Level Matching

Saturday, November 18, 2023 10:10 AM (20 minutes)

We present MatchingEFT.jl, an automated tool to extract hard region contribution of the tree-level and one-loop 1PI amplitude, which can be matched to the standard model effective theory (SMEFT) operator basis in ABC4EFT.
FeAnGen4EFT performs the feynman diagram generation for the specific scattering process using the designed universal feynrules output file (UFO) and Qgraf. It offers the designated Feynman diagrams' amplitudes explicitly to provide non-trivial check for the gauge invariance. It will use FORM script to process extracting hard region expansion for the output from the previous step. These results will be given in a physical basis such as P-basis and Y-basis in ABC4EFT by using the on-shell amplitude basis method for a further crosscheck. FeAmGen4SMEFT has been built with lightweight, generality, flexibility, specialization, and efficiency in mind.
These ingredients allow FeAmGen4SMEFT to have more applications beyond the matching based on the complete operator basis with the specific mass dimension offered by ABC4EFT. One of these applications includes the one-loop renormalization of arbitrary theories.
We have performed one-loop matching for some processes under the specified UV model and obtained consistent results with other papers.

Primary author: 杨, 成杰 (高能物理研究所 & 理论物理研究所)

Presenter: 杨, 成杰 (高能物理研究所 & 理论物理研究所)

Session Classification: Theory

Contribution ID: **36** Type: **not specified**

Elliptic anisotropy of hard probes from parton scatterings in small collision systems

Friday, November 17, 2023 5:00 PM (20 minutes)

The hard probes, including jets and heavy flavors, play an important role in investigating the properties of quark–gluon plasma (QGP) formed in heavy-ion collisions. The positive elliptic flow of hard probes observed in semi-central Pb–Pb collisions indicates that the hard partons suffered strong interactions in the deconfined QCD medium and then obtain the collectivity. However, recent measurements show also a non-zero v_2 for high-p_{T} charged particles and heavy flavor hadrons in high-multiplicity p–Pb collisions for both mid and forward rapidities, whose origin is still debated.

In this contribution, we employ a multi-phase transport model (AMPT) to calculate the v_2 of jet particles and open heavy-flavour hadron decay muons in p–Pb collisions at mid and forward rapidity, respectively. The results are obtained using the two-particle correlation method and the advanced nonflow subtraction strategy. We will systematically introduce how the collectivity of hard partons are generated from parton scatterings, and then propagated to the final state in small collision systems. Comparisons with experimental results will be presented as well. This work will provide further insights into understanding the origin of elliptic anisotropy of hard probes in small collision systems, and has referential value for the future measurements.

Primary author: 汤, 思宇 (武汉纺织大学)

Presenter: 汤, 思宇 (武汉纺织大学)

Session Classification: Theory

Contribution ID: **37** Type: **not specified**

Improved Asymptotic Formulae for Statistical Interpretation Based on Likelihood Ratio Tests

Saturday, November 18, 2023 10:51 AM (1 minute)

In this work, we try to improve the classic asymptotic formulae to describe the probability distribution of likelihood-ratio statistical tests. The idea is to split the probability distribution function into two parts. One part is universal and described by the asymptotic formulae. The other part is case-dependent and estimated explicitly using a 6-bin model proposed in this work. The latter is similar to doing toy simulations and hence is able to predict the discrete structures in the probability distributions. The new asymptotic formulae provide a much better differential description of the test statistics. The better performance is confirmed in two toy examples.

Primary authors: XIA, LIGANG (Nanjing University); ZHANG, yan (南京大学)

Presenter: ZHANG, yan (南京大学)

Session Classification: Poster Session

Contribution ID: **38** Type: **not specified**

Limiting FCNC induced by a CP symmetry of order 4

Sunday, November 19, 2023 5:20 PM (20 minutes)

CP4 3HDM is a three-Higgs-doublet model based on the CP symmetry of order 4 (CP4). Imposing CP4 leads to remarkable connections between the scalar and Yukawa sectors and unavoidably generates tree-level flavor-changing neutral couplings (FCNC). It remains unclear whether FCNC can be sufficiently suppressed in the CP4 3HDM. In this paper, we systematically explore this issue. We first develop an efficient scanning procedure which takes the quark masses and mixing as input and expresses the FCNC matrices in terms of physical quark observables and quark rotation parameters. This procedure allows us to explore the FCNC effects for all the Yukawa sectors possible within the CP4 3HDM. We find that, out of the eight possible CP4 Yukawa sectors, only two scenarios are compatible with the K, B, Bs and, in particular, D-meson oscillation constraints. The results of this work serve as clear guidelines for future phenomenological scans of the model.

Primary author: ZHAO, Duanyang (中山大学)

Presenter: ZHAO, Duanyang (中山大学)

Session Classification: Theory

Contribution ID: **39** Type: **not specified**

Aiming for Tops of ALPs with a Muon Collider

Friday, November 17, 2023 3:20 PM (20 minutes)

Future muon colliders with center-of-mass energy of $\mathcal{O}(1-10)$ TeV can provide a clean high-energy environment with advantages in searches for TeV-scale axion-like particles (ALPs), pseudo-Nambu–Goldstone bosons associated with spontaneously broken global symmetries, which are widely predicted in physics beyond the Standard Model (SM).
We exploit ALP couplings to SM fermions, and guided by unitarity constraints, build a search strategy focusing on the ALP decay to top quark pairs.

Primary authors: CHIGUSA, So; GIRMOHANTA, Sudhakantha (Tsung-Dao Lee Institute and Shanghai Jiao Tong University); ZHANG, Yufei; NAKAI, Yuichiro

Presenter: ZHANG, Yufei

Session Classification: Theory

Contribution ID: **40** Type: **not specified**

The installation progress of upgrade Upstream Tracker at LHCb Upgrade II

The Upstream Tracker is a key component of the LHCb updating. Based on silicon strip sensors, the UT will contribute to efficient and high-speed track reconstruction. UT's installation is a long-term and challenging work. Fortunately, the installation of UT is compeleted earlier this year. It also passed many kinds of electronics and service tests. The details of installation and pre-tests for the UT detector will be introduced.

Primary author: Mr JIANG, Xiaojie (IHEP(Beijing))

Presenter: Mr JIANG, Xiaojie (IHEP(Beijing))

Session Classification: Theory

Contribution ID: **41** Type: **not specified**

Explaining the CDF W-mass shift and $(g-2)_\mu$ in a Z' scenario and its implications for the b \to s \ell^+ \ell^- processes

Saturday, November 18, 2023 9:10 AM (20 minutes)

In the past few years, several indirect hints for New Physics beyond the SM arose in precision measurements, e.g., $(g-2)_\mu$ and the W-boson mass. In this work, we consider a model containing new vector-like Fermion partner gauged under a new $U(1)'$ symmetry. It is found that the latest CDF m_W measurement and $(g-2)_\mu$ can be simultaneously accommodated. We have also considered several other experimental constraints, including the neutrino trident production, $Z \to \mu\mu$ decay, dimuon resonance searches at the LHC, etc. Implications for the $b \to s\ell^+\ell^-$ process will be discussed. (This work is based on 2205.02205 and 2307.05290.)

Primary author: 兴博, 袁 (CCNU)

Presenter: 兴博, 袁 (CCNU)

Session Classification: Theory

Contribution ID: **42** Type: **not specified**

Massive Scattering Amplitudes for Standard Model: On-shell Massless-Massive Correspondence

Saturday, November 18, 2023 9:50 AM (20 minutes)

We organize massive tree-level amplitudes in Standard Model by power counting and helicity category, and match them with their high energy origins. The construction of massive amplitudes is based on the massive bootstrap method, decomposing internal and external structures, and the existing leading orders of massless-massive correspondence. For the matching of higher order components, we introduce the on-shell Higgsing mechanism first proposed by (R. Balkin et al., 2022) and further the discussion to propagators.

Primary authors: Prof. 于, 江浩 (Institute of Theoretical Physics, Chinese Academy of Sciences); Dr 邬, 超 (Institute of Theoretical Physics, Chinese Academy of Sciences); 倪, 郁涵 (Institute of Theoretical Physics, Chinese Academy of Sciences)

Presenter: 倪, 郁涵 (Institute of Theoretical Physics, Chinese Academy of Sciences)

Session Classification: Theory

Contribution ID: **43** Type: **not specified**

The Prototype Design of PEB - a Component of the HGTD In-detector Electronics for the ATLAS Phase-II Upgrade

The High Granularity Timing Detector (HGTD) is proposed as a part of the ATLAS Phase-II upgrade to mitigate the impact of pileup on object reconstruction by precisely measuring the time of tracks. In addition, HGTD also provides an instantaneous measurement of the luminosity. HGTD is composed of 8032 front-end modules. Each module consists of two Low Gain Avalanche Detectors (LGADs) of approximately 2 × 2cmˆ2 bump-bonded to two ATLAS LGAD Timing Integrated Read-Out Chips (ALTIROC) and held together by a module flex (flexible PCB). Each module will be connected to the Peripheral Electronics Boards (PEB) through a flex tail (another flexible PCB). The connections between on-detector and off-detector electronics are performed via optical fibers, high/low voltage cables, interlock cables and monitoring signal cables. The PEB acts as a bridge between the front-end modules and the off-detector systems. The optical fibers provide shared data streams for Timing, Trigger and Control (TTC), Detector Control System (DCS) and Data Acquisition System (DAQ), and dedicated data streams for the luminosity system. The PEB uses the low-power GigaBit Transmission chip (lpGBT) and the Versatile Link + Transceiver (VTRx+). The PEB also includes the 12 V to 1.2 V DC-DC converters (bPOL12v) for the digital and analogue voltages supplied to the front-end modules. The supply voltages are monitored using the internal multiplexed ADC on the lpGBTs. Since the input channel number of this ADC is limited to 8, a multiplexing chip is required to handle all the signals connected to PEB. A full custom 64-to-1 multiplexing ASIC (MUX64) has been developed with a radiation tolerance suitable for its implementation on the PEB. According to the optimization of mirror structure for the layout of the modules, 6 types of PEBs need to be designed for HGTD. Based on previous development experience, the PEB 1F was chosen to be designed first as a prototype since it is the most complicated PEB type, which supports up to 55 front-end modules with 12 lpGBT, 9 VTRx+ and 52 bPOL12v in a very limited space. The requirements and overall specifications of the electronics of HGTD will be presented as well as the technical design and the project status.

Primary author: GE, Zhenwu (Nanjing University)

Presenter: GE, Zhenwu (Nanjing University)

Session Classification: Theory

Contribution ID: **44** Type: **not specified**

Dark matter distribution, structure formation and the potential to distinguish thermal histories of dark matter.

Thursday, November 16, 2023 5:40 PM (20 minutes)

It is important to understand the implications of current observational constraints and potential signatures on the thermal history of dark matter. Using the freeze-in/-out scenarios as templates, we revisit dark-matter production by solving the Boltzmann equations at the level of the phase-space distribution. We also investigate the current Lyman-alpha constraints on mass of the dark matter and build the connection between the mass and the production mechanism of dark matter and find that the current observation on structure formation can be imposed to constrain the decoupling temperatures and the phase-space distribution of dark matter. We further explore the potential of distinguishing different possible thermal histories of dark matter with hypothetical future observational data. This method can be more generally applied to other scenarios.

Primary authors: HUANG, Fei (Weizmann Institute of Science); LI, Haolin (ITP-CAS); DU, Yong (TDLI-SJTU); LI, Yuan-Zhen; 于, 江浩 (Institute of Theoretical Physics, Chinese Academy of Sciences)

Presenter: LI, Yuan-Zhen

Session Classification: Theory

Contribution ID: **46** Type: **not specified**

Double Parton Scattering Effect in the Measurement of W-Mass

Saturday, November 18, 2023 9:30 AM (20 minutes)

Recently, the W boson mass measured by the CDF-II collaboration shows large tension with the standard model prediction and other measurements. In this work, we look into the double parton scattering (DPS) contribution in CDF-II W mass measurement. We show that the DPS process can increase the measured mass as $\Delta M_W = 20 - 200$ MeV for the missing transverse momentum fit and $\Delta M_W = 0 - 50$ MeV for the transverse mass fit. It is comparable to the W-mass tension and should be take into consideration. The DPS effect can also appears in other inclusive measurements, since it contributes $\sim 10^{-2}$ events in total and cause a $\mathcal{O}(10^{-2}) - \mathcal{O}(10^{-1})$ GeV shift of the missing transverse momentum.

Primary author: ZHANG, Rui (IHEP)

Co-author: ZHANG, Hao (Theoretical Physics Division, Institute of High Energy Physics, Chinese Academy of Sciences)

Presenter: ZHANG, Rui (IHEP)

Session Classification: Theory

Contribution ID: **47** Type: **not specified**

Hunting for sterile neutrino at colliders

Thursday, November 16, 2023 4:20 PM (20 minutes)

We study the feasibility of observing sterile neutrino at the high energy colliders, using direct and indirect production channels in heavy meson/baryon and Higgs decays. It is found that these processes may set certain new constraints on the mass of sterile netrino in present running and next generation experiments.

Primary author: QIAO, Cong-Feng (UCAS)

Presenter: QIAO, Cong-Feng (UCAS)

Session Classification: Theory

Contribution ID: **48** Type: **not specified**

Probing Neutral Triple Gauge Couplings at the LHC, CEPC and SPPC

Friday, November 17, 2023 2:20 PM (20 minutes)

We study probes of neutral triple gauge couplings (nTGCs) at the LHC, CEPC and SPPC. The nTGCs provide a unique window to the new physics beyond the Standard Model (SM) because they can arise from SM effective field theory (SMEFT) operators that respect the full electroweak gauge group $\mathrm{SU}(2)_{\mathrm{L}} \otimes \mathrm{U}(1)_{\mathrm{Y}}$ of the SM only at the level of dimension-8 or higher. We derive the neutral triple gauge vertices (nTGVs) generated by these dimension-8 operators in the broken phase and map them onto a newly generalized form factor formulation, which takes into account only the residual $\mathrm{U}(1)_{\mathrm{em}}$ gauge symmetry. Using this mapping, we derive new relations between the form factors that guarantee a truly consistent form factor formulation of the nTGVs and remove large unphysical energy-dependent terms. We then analyze the sensitivity reaches of the LHC, CEPC and SPPC for probing the nTGCs via both the dimension-8 nTGC operators and the corresponding nTGC form factors. We compare their sensitivities with the existing LHC measurements of nTGCs and with those of future colliders.

Primary author: XIAO, Ruiqing

Presenter: XIAO, Ruiqing

Session Classification: Theory

Contribution ID: **50** Type: **not specified**

$B \to D$ form factors beyond leading power and extraction of $|V_{cb}|$ and $R(D)$

Sunday, November 19, 2023 4:20 PM (20 minutes)

Presenter: WEI, Yan-bing (BJUT)

Session Classification: Theory

Contribution ID: **51** Type: **not specified**

Unveiling time-varying signals of ultralight bosonic dark matter at collider and beam dump experiments

Thursday, November 16, 2023 5:20 PM (20 minutes)

Presenter: GUO, Jinhui (Peking University)

Session Classification: Theory

Contribution ID: **52** Type: **not specified**

Heavy long-lived coannihilation partner from inelastic Dark Matter model and its signatures at the LHC

Thursday, November 16, 2023 5:00 PM (20 minutes)

Presenter: HE, Yuxuan (Peking University)

Session Classification: Theory

Contribution ID: **53** Type: **not specified**

利用有限温度有效理论研究电弱相变

Sunday, November 19, 2023 2:40 PM (20 minutes)

Presenter: 覃, 仁晖 (重庆大学)

Session Classification: Theory

Contribution ID: **54** Type: **not specified**

BBN 和 CMB 限制低能标新物理

Sunday, November 19, 2023 3:20 PM (20 minutes)

Presenter: 邓, 世豪 (重庆大学)

Session Classification: Theory

Contribution ID: **55** Type: **not specified**

Testing Complex Singlet Scalar Cosmology at the Large Hadron Collider

Sunday, November 19, 2023 3:40 PM (20 minutes)

Presenter: ZHANG, Wenxing (SJTU)

Session Classification: Theory

Contribution ID: **56** Type: **not specified**

Massive gauge theory with quasigluon for hot SU(N) : Phase transition and thermodynamics

Thursday, November 16, 2023 6:00 PM (20 minutes)

Presenter: ZHU, Jiang (TDLI)

Session Classification: Theory

Contribution ID: **57** Type: **not specified**

Electroweak phase transitions proceed via bubbles vs. domain walls (Remote)

Friday, November 17, 2023 3:40 PM (20 minutes)

Presenter: JIANG, Yun (SYSU)

Session Classification: Theory

Contribution ID: **58** Type: **not specified**

Theory overview: Collider Physics

Thursday, November 16, 2023 11:00 AM (30 minutes)

Presenter: Prof. YAN, Bin (IHEP)

Session Classification: Plenary Session

Contribution ID: **59** Type: **not specified**

Precision Higgs measurements at the LHC

Thursday, November 16, 2023 11:30 AM (25 minutes)

Presenter: Prof. SUN, Xiaohu (Peking University)

Session Classification: Plenary Session

Contribution ID: **60** Type: **not specified**

Search for HH production at the LHC

Friday, November 17, 2023 9:25 AM (25 minutes)

Presenter: LU, Nan (USTC)

Session Classification: Plenary Session

Contribution ID: **61** Type: **not specified**

BSM/rare Higgs

Sunday, November 19, 2023 11:55 AM (25 minutes)

Presenter: 刘, 彦麟 (Shandong Univ. (CN))

Session Classification: Plenary Session

Contribution ID: **62** Type: **not specified**

Theory overview: Heavy flavor physics

Monday, November 20, 2023 8:30 AM (30 minutes)

Presenter: Prof. 沈, 月龙 (Ocean University of China)

Session Classification: Plenary Session

Contribution ID: **63** Type: **not specified**

重味谱学

Monday, November 20, 2023 9:50 AM (25 minutes)

Presenter: AN, Liupan (北京大学)

Session Classification: Plenary Session

Contribution ID: **64** Type: **not specified**

Search for rare decays at LHCb

Monday, November 20, 2023 9:25 AM (25 minutes)

Presenter: HE, Jibo (University of Chinese Academy of Sciences)

Session Classification: Plenary Session

Contribution ID: **65** Type: **not specified**

ALICE 实验中集体运动研究进展

Thursday, November 16, 2023 11:55 AM (25 minutes)

Presenter: 寿, 齐烨 (复旦大学)

Session Classification: Plenary Session

Contribution ID: **66** Type: **not specified**

Theory overview: QCD

Friday, November 17, 2023 8:30 AM (30 minutes)

Precision prediction for top quark physics

Top quark is the heaviest particle in the standard model. Once produced, the top quark immediately decays to a W boson and a bottom quark before hadronization. Precision studies for top quark physic plays essential role in the validity of the Standard Model and exploring potential avenues for new physics. In this talk I will review recently theoretical development in top quark physics, which includes the theoretical efforts for top quark production and decay.

Presenter: LI, Haitao (haitao.li@sdu.edu.cn)

Session Classification: Plenary Session

Contribution ID: **67** Type: **not specified**

SM measurements at the LHC (+Top)

Friday, November 17, 2023 9:00 AM (25 minutes)

Presenter: ZHOU, Chen (Peking University)

Session Classification: Plenary Session

Contribution ID: **68** Type: **not specified**

CPV

Monday, November 20, 2023 9:00 AM (25 minutes)

Presenter: Prof. QIAN, Wenbin (University of Chinese Academy of Sciences)

Session Classification: Plenary Session

Contribution ID: **69** Type: **not specified**

CEPC review

Friday, November 17, 2023 9:50 AM (30 minutes)

Presenter: Prof. WANG, Jianchun (IHEP)

Session Classification: Plenary Session

Contribution ID: **70** Type: **not specified**

ATLAS upgrade

Friday, November 17, 2023 10:40 AM (25 minutes)

Presenter: XU, Lailin (USTC)

Session Classification: Plenary Session

Contribution ID: **71** Type: **not specified**

CMS upgrade

Friday, November 17, 2023 11:05 AM (20 minutes)

Presenter: FENG, Wang (IHEP)

Session Classification: Plenary Session

Contribution ID: **72** Type: **not specified**

LHCb upgrade

Friday, November 17, 2023 11:25 AM (25 minutes)

Presenter: YANG, Zhenwei (Peking University)

Session Classification: Plenary Session

Contribution ID: **73** Type: **not specified**

ALICE upgrade

Friday, November 17, 2023 11:50 AM (25 minutes)

Presenter: LI, Xiaomei

Session Classification: Plenary Session

Contribution ID: **74** Type: **not specified**

Theory overview: Heavy ion physics

Sunday, November 19, 2023 8:30 AM (30 minutes)

Presenter: KE, Weiyao (Central China Normal University)

Session Classification: Plenary Session

Contribution ID: **75** Type: **not specified**

ALICE 实验中奇异强子的产生

Sunday, November 19, 2023 9:00 AM (25 minutes)

Presenter: YIN, Zhongbao (CCNU)

Session Classification: Plenary Session

Contribution ID: **76** Type: **not specified**

ALICE 实验中重夸克的产生与输运

Sunday, November 19, 2023 9:25 AM (25 minutes)

Presenter: 彭, 忻烨

Session Classification: Plenary Session

Contribution ID: **77** Type: **not specified**

Heavy Ion physics at ATLAS and CMS

Sunday, November 19, 2023 9:50 AM (25 minutes)

Presenter: HU, Qipeng (USTC)

Session Classification: Plenary Session

Contribution ID: **78** Type: **not specified**

Theory Overview: Neutrino Physics

Sunday, November 19, 2023 10:35 AM (30 minutes)

Presenter: LI, Gang (Sun Yat-Sen University)

Session Classification: Plenary Session

Contribution ID: **79** Type: **not specified**

SUSY results at LHC

Sunday, November 19, 2023 11:05 AM (25 minutes)

Presenter: XU, Da (IHEP, CAS)

Session Classification: Plenary Session

Contribution ID: **80** Type: **not specified**

Dark matter and unconventional searches at the LHC

Sunday, November 19, 2023 11:30 AM (25 minutes)

Presenter: ZHOU, Ning (Shanghai Jiao Tong University)

Session Classification: Plenary Session

Contribution ID: **81** Type: **not specified**

Exotics (non-SUSY) searches at the LHC (+Flavor)

Monday, November 20, 2023 11:00 AM (25 minutes)

Presenter: Prof. SHEN, Chengping (Fudan Univ.)

Session Classification: Plenary Session

Contribution ID: **82** Type: **not specified**

Speech from SJTU-TDLI and CPS

Thursday, November 16, 2023 8:30 AM (5 minutes)

Presenter: Prof. ZHANG, Jie (TDLI, SJTU)

Session Classification: Plenary Session

Contribution ID: **83** Type: **not specified**

Speech from Funding Agency

Thursday, November 16, 2023 8:35 AM (5 minutes)

Presenter: Prof. LI, Huihong (NSFC)

Session Classification: Plenary Session

Contribution ID: **84** Type: **not specified**

Speech from CPS High Energy Branch

Thursday, November 16, 2023 8:40 AM (5 minutes)

Presenter: Prof. ZHAO, Zhengguo (USTC)

Session Classification: Plenary Session

Contribution ID: **85** Type: **not specified**

Announcements from LOC

Thursday, November 16, 2023 8:45 AM (5 minutes)

Presenters: LI, Shu (TDLI, SJTU); YANG, Haijun (SJTU/TDLI)

Session Classification: Plenary Session

Contribution ID: **86** Type: **not specified**

ATLAS report

Thursday, November 16, 2023 8:50 AM (25 minutes)

Presenter: WU, Yusheng (USTC)

Session Classification: Plenary Session

Contribution ID: **87** Type: **not specified**

CMS report

Thursday, November 16, 2023 9:15 AM (25 minutes)

Presenter: YI, Kai (Nanjing normal university)

Session Classification: Plenary Session

Contribution ID: **88** Type: **not specified**

LHCb report

Thursday, November 16, 2023 9:40 AM (25 minutes)

Presenter: LI, Hengne (South China Normal University)

Session Classification: Plenary Session

Contribution ID: **89** Type: **not specified**

ALICE report

Thursday, November 16, 2023 10:05 AM (25 minutes)

Presenter: ZHANG, Song (Fudan Univ. (CN))

Session Classification: Plenary Session

Contribution ID: **90** Type: **not specified**

Theory overview: New Physics at the LHC: SMEFT and Beyond

Monday, November 20, 2023 11:25 AM (30 minutes)

Presenter: Prof. HE, Hong-Jian (SJTU/TDLI)

Session Classification: Plenary Session

Contribution ID: **91** Type: **not specified**

Machine Learning at LHC

Monday, November 20, 2023 10:35 AM (25 minutes)

Presenter: Dr ZHANG, Rui (University of Wisconsin-Madison)

Session Classification: Plenary Session

Contribution ID: **92** Type: **not specified**

CLHCP2023 Summary

Monday, November 20, 2023 11:55 AM (15 minutes)

Presenter: Prof. GAO, Yuanning (Peking University (CN))

Session Classification: Closing

Contribution ID: **93** Type: **not specified**

Announcements

Monday, November 20, 2023 12:10 PM (10 minutes)

Presenters: ZHANG, Huaqiao (IHEP); LIU, Jia (Peking University)

Session Classification: Closing

Contribution ID: **94** Type: **not specified**

Status of USTC-IME Pre-production sensor for the ATLAS High Granularity Timing Detector

Thursday, November 16, 2023 2:00 PM (15 minutes)

Presenter: MA, Kuo (University of Science and Technology of China)

Session Classification: Instrumental

Contribution ID: **95** Type: **not specified**

First results of USTC AC-coupled LGADs

Thursday, November 16, 2023 2:15 PM (15 minutes)

Presenter: LI, han

Session Classification: Instrumental

Contribution ID: **96** Type: **not specified**

Electronics test results of Altiroc2 and Altiroc3

Thursday, November 16, 2023 2:30 PM (15 minutes)

Presenter: LI, zhuang

Session Classification: Instrumental

Contribution ID: **97** Type: **not specified**

HGTD module assembly and module test at USTC

Thursday, November 16, 2023 2:45 PM (15 minutes)

Presenter: WANG, Aonan (USTC)

Session Classification: Instrumental

Contribution ID: **98** Type: **not specified**

ATLAS High granularity timing detector activity at IHEP/NJU

Thursday, November 16, 2023 3:00 PM (15 minutes)

Presenter: LIANG, zhijun (IHEP)

Session Classification: Instrumental

Contribution ID: **99** Type: **not specified**

IHEP-IME radiation hard LGAD sensor pre-production for ATLAS High granularity timing detector

Thursday, November 16, 2023 3:15 PM (15 minutes)

Presenter: 赵, 梅 (IHEP)

Session Classification: Instrumental

Contribution ID: **100** Type: **not specified**

The Prototype Design of PEB - a Component of the HGTD In-detector Electronics for the ATLAS Phase-II Upgrade

Thursday, November 16, 2023 3:30 PM (15 minutes)

Presenter: GE, Zhenwu (Nanjing University)

Session Classification: Instrumental

Contribution ID: **101** Type: **not specified**

R&D of AC-LGAD based 4D tracker with precision timing information for HL-LHC and the future colliders

Thursday, November 16, 2023 3:45 PM (15 minutes)

Presenter: SUN, Weiyi

Session Classification: Instrumental

Contribution ID: **102** Type: **not specified**

Module performance study for the High Granularity Timing Detector of ATLAS

Thursday, November 16, 2023 4:20 PM (15 minutes)

Presenter: 杨 YANG, 轩 Xuan (中国科学院高能物理研究所 (IHEP,CAS))

Session Classification: Instrumental

Contribution ID: **103** Type: **not specified**

Radiation Tolerance of the MUX64 for the High Granularity Timing Detector of ATLAS

Thursday, November 16, 2023 4:35 PM (15 minutes)

Presenter: WANG, Chuanye (Nanjing University)

Session Classification: Instrumental

Contribution ID: **104** Type: **not specified**

Automatic Module assembly development for ATLAS High granularity timing detector

Thursday, November 16, 2023 4:50 PM (15 minutes)

Presenter: HUANG, Xinhui

Session Classification: Instrumental

Contribution ID: **105** Type: **not specified**

HGTD PEB DC/DC Power Block in Low Temperature and Magnetic Field Operation

Thursday, November 16, 2023 5:05 PM (15 minutes)

Presenter: 翟, 明杰

Session Classification: Instrumental

Contribution ID: **106** Type: **not specified**

Performance of USTC-IME sensors in test beams at DESY and CERN

Thursday, November 16, 2023 5:20 PM (15 minutes)

Presenter: ZHENG, Xiangxuan

Session Classification: Instrumental

Contribution ID: **107** Type: **not specified**

CMS Endcap Timing Layer of MTD

Thursday, November 16, 2023 5:35 PM (15 minutes)

Presenter: YU, Chengjun (USTC)

Session Classification: Instrumental

Contribution ID: **108** Type: **not specified**

MTD sensor and assembly

Thursday, November 16, 2023 5:50 PM (15 minutes)

Presenter: 王, 锦 (PKU)

Session Classification: Instrumental

Contribution ID: **109** Type: **not specified**

HGCal MAC status at IHEP

Friday, November 17, 2023 2:00 PM (15 minutes)

Presenter: YU, Taozhe (中国科学院高能物理研究所)

Session Classification: Instrumental

Contribution ID: **110** Type: **not specified**

HGCal SQC at IHEP and domestric silicon sensor R&D for calorimeter

Friday, November 17, 2023 2:15 PM (15 minutes)

Presenter: ZHAO, xiao

Session Classification: Instrumental

Contribution ID: **111** Type: **not specified**

Computing vision QC in HGCal production

Friday, November 17, 2023 2:30 PM (15 minutes)

Presenter: 袁, 煦昊 (IHEP)

Session Classification: Instrumental

Contribution ID: **112** Type: **not specified**

基于 SystemC 对 FOCAL-E 像素层进行模拟分析

Friday, November 17, 2023 2:45 PM (15 minutes)

Presenter: YI, Jie

Session Classification: Instrumental

Contribution ID: **113** Type: **not specified**

FOCAL 探测器像素层数据分析现状

Friday, November 17, 2023 3:00 PM (15 minutes)

Presenter: HE, Liu

Session Classification: Instrumental

Contribution ID: **114** Type: **not specified**

ECAL simulation for LHCb Upgrade II

Friday, November 17, 2023 3:15 PM (15 minutes)

Presenter: FEI, Jiale (Wuhan University)

Session Classification: Instrumental

Contribution ID: **115** Type: **not specified**

Testbeam results of the LHCb Upgrade II ECAL prototype

Friday, November 17, 2023 3:30 PM (15 minutes)

Presenter: MA, Ge

Session Classification: Instrumental

Contribution ID: **116** Type: **not specified**

Performance of the GAGG crystal for LHCb Upgrade II ECAL

Friday, November 17, 2023 3:45 PM (15 minutes)

Presenter: YUAN, Zhiyang (PKU)

Session Classification: Instrumental

Contribution ID: **117** Type: **not specified**

ATLAS ITk Strip Module Site Qualification at IHEP

Friday, November 17, 2023 4:20 PM (15 minutes)

Presenter: 郭, 蕾

Session Classification: Instrumental

Contribution ID: **118** Type: **not specified**

Cold Noise Study in ATLAS ITk Strip Detectors

Friday, November 17, 2023 4:35 PM (15 minutes)

Presenter: 李, 瞻 (IHEP)

Session Classification: Instrumental

Contribution ID: **119** Type: **not specified**

SEE test of production ASICs in CSNS

Friday, November 17, 2023 4:50 PM (15 minutes)

Presenter: PENG, Shaogang (Tsing Hua University)

Session Classification: Instrumental

Contribution ID: **120** Type: **not specified**

A study on the feasibility of CSNS becoming an ATLAS ITk sensor QA irradiation site

Friday, November 17, 2023 5:05 PM (15 minutes)

Presenter: LI, Hui (Tsinghua University)

Session Classification: Instrumental

Contribution ID: **121** Type: **not specified**

Installation of LHCb Upstream Tracker

Friday, November 17, 2023 5:20 PM (15 minutes)

Presenter: JIANG, Xiaojie (IHEP(Beijing))

Session Classification: Instrumental

Contribution ID: **122** Type: **not specified**

Simulation of UT for LHCb Upgrade II

Friday, November 17, 2023 5:35 PM (15 minutes)

Presenter: 盛, 书琪 (IHEP 高能所)

Session Classification: Instrumental

Contribution ID: **124** Type: **not specified**

Early Run3 H→γγ fiducial Cross-Section measurement

Thursday, November 16, 2023 2:40 PM (15 minutes)

Presenter: ZHANG, Peng (IHEP)

Session Classification: TeV

Contribution ID: **125** Type: **not specified**

Test of CP Invariance in Higgs Boson Vector-Boson-Fusion Production Using the H->gamgam Channel with the ATLAS Detector

Thursday, November 16, 2023 2:55 PM (15 minutes)

Presenter: GUO, Fangyi (IHEP)

Session Classification: TeV

Contribution ID: **126** Type: **not specified**

Novel photon energy calibration method and Higgs mass measur

Thursday, November 16, 2023 3:10 PM (15 minutes)

Presenter: HE, Mingxu (IHEP)

Session Classification: TeV

Contribution ID: **127** Type: **not specified**

(Remote) Measurement of the H->ZZ->4l cross-sections in pp collisions at 13.6 TeV with the ATLAS detector

Thursday, November 16, 2023 3:25 PM (15 minutes)

Presenter: TIAN, Chunhao (USTC)

Session Classification: TeV

Contribution ID: **128** Type: **not specified**

Measurements of inclusive and differential cross sections for the Higgs boson production and decay to four-leptons in proton-proton collisions at √s = 13 TeV

Thursday, November 16, 2023 3:40 PM (15 minutes)

Presenter: GUO, Qianying (BUAA)

Session Classification: TeV

Contribution ID: **129** Type: **not specified**

Legacy search for the non-resonant production of Higgs boson pairs via gluon fusion and ve bosonfusion in the ⊠⊠⊠ final state in proton-proton collisions at √s = 13 TeV with the ATLAS detector (remote)

Thursday, November 16, 2023 4:40 PM (15 minutes)

Presenter: HAN, Liangliang (Nanjing Univ.)

Session Classification: TeV

Contribution ID: **130** Type: **not specified**

Studies of new Higgs boson interactions through nonresonant HH productio final state in pp collisions at √s = 13 TeV with the ATLAS detector

Thursday, November 16, 2023 4:55 PM (15 minutes)

Presenter: Ms JIA, Zihang (Nanjing University)

Session Classification: TeV

Contribution ID: **131** Type: **not specified**

Preliminary Results on Higgs Pair Production in Multi-lepton Channel with the ATLAS Experiment

Thursday, November 16, 2023 5:10 PM (15 minutes)

Presenter: ZHANG, Yulei (SJTU)

Session Classification: TeV

Contribution ID: **132** Type: **not specified**

Search for diHiggs with VHH (Remote)

Thursday, November 16, 2023 5:25 PM (15 minutes)

Presenter: ZHANG, Licheng (Peking University (CN))

Session Classification: TeV

Contribution ID: **133** Type: **not specified**

Higgs mass and width measurement in ZZ to 4-leptons final state with full Run2 data (CMS)

Thursday, November 16, 2023 5:40 PM (15 minutes)

Presenter: ZHANG, Chenguang (IHEP)

Session Classification: TeV

Contribution ID: **134** Type: **not specified**

Measure-
ment of Higgs boson mass and width with LHC run2 data at the A

Thursday, November 16, 2023 5:55 PM (15 minutes)

Presenter: ZHANG, Yangfan (University of Science and Technology of China)

Session Classification: TeV

Contribution ID: **135** Type: **not specified**

B(s)->D(*)phi

Thursday, November 16, 2023 2:00 PM (15 minutes)

Presenter: 敖, 冬

Session Classification: HF/HI/QCD

Contribution ID: **136** Type: **not specified**

Charm spetroscopy at LHCb

Thursday, November 16, 2023 2:15 PM (15 minutes)

Presenter: XU, Zhihao

Session Classification: HF/HI/QCD

Contribution ID: **137** Type: **not specified**

Interference fit to the double Jpsi mass spectrum at CMS

Thursday, November 16, 2023 2:30 PM (15 minutes)

Presenter: WANG, Xining (Tsinghua University)

Session Classification: HF/HI/QCD

Contribution ID: **138** Type: **not specified**

b-hadron FCNC decays at LHCb

Thursday, November 16, 2023 2:45 PM (15 minutes)

Presenter: ZHOU, Yixiong

Session Classification: HF/HI/QCD

Contribution ID: **139** Type: **not specified**

Ds and D+ production in pPb

Thursday, November 16, 2023 3:15 PM (15 minutes)

Presenter: LUO, Yiheng

Session Classification: HF/HI/QCD

Contribution ID: **140** Type: **not specified**

Psi(2S)/Jpsi versus multiplicity in pp

Thursday, November 16, 2023 4:20 PM (15 minutes)

Presenter: KANG, You'en

Session Classification: HF/HI/QCD

Contribution ID: **141** Type: **not specified**

Bs->phiphi

Thursday, November 16, 2023 4:35 PM (15 minutes)

Presenter: LI, Kechen

Session Classification: HF/HI/QCD

Contribution ID: **142** Type: **not specified**

lhcb EW results

Thursday, November 16, 2023 4:50 PM (15 minutes)

Presenters: DENG, Jianqiao; HAN, Qundong

Session Classification: HF/HI/QCD

Contribution ID: **143** Type: **not specified**

Associated quarkonium production

Thursday, November 16, 2023 5:05 PM (15 minutes)

Presenter: WANG, Jialu

Session Classification: HF/HI/QCD

Contribution ID: **144** Type: **not specified**

Dicharm decay of beauty baryons

Thursday, November 16, 2023 5:20 PM (15 minutes)

Presenter: SHANG, Yiduo

Session Classification: HF/HI/QCD

Contribution ID: **145** Type: **not specified**

Omegac0 two-body hadronic decays at LHCb

Thursday, November 16, 2023 5:35 PM (15 minutes)

Presenter: LIN, Chuangxin

Session Classification: HF/HI/QCD

Contribution ID: **147** Type: **not specified**

B->D*K

Thursday, November 16, 2023 3:00 PM (15 minutes)

Presenter: HAO, Lei

Session Classification: HF/HI/QCD

Contribution ID: **148** Type: **not specified**

Bs->Ds1K

Thursday, November 16, 2023 5:50 PM (15 minutes)

Remote

Presenter: WANG, Zirui (Tsinghua Univ.)

Session Classification: HF/HI/QCD

Contribution ID: **149** Type: **not specified**

Search for the exotic decay of the Higgs boson into a Z boson and a light pseudo-scalar decaying into two photons in pp collisions at 13TeV (CMS)

Friday, November 17, 2023 2:00 PM (15 minutes)

Presenter: WANG, Zebing (IHEP)

Session Classification: TeV

Contribution ID: **150** Type: **not specified**

Search for extra Higgs bosons through same-sign top-quark production in association with an extra jet(Remote)

Friday, November 17, 2023 2:15 PM (15 minutes)

Presenter: LU, Meng (SYSU)

Session Classification: TeV

Contribution ID: **151** Type: **not specified**

Searches for lepton flavour violation in Higgs boson decays, H →

Friday, November 17, 2023 2:30 PM (15 minutes)

Presenter: DE MARIA, Antonio (Nanjing University (CN))

Session Classification: TeV

Contribution ID: **152** Type: **not specified**

Searches for Lepton-flavour-violating decays of the Higgs boson

Friday, November 17, 2023 2:45 PM (15 minutes)

Presenter: WU, Minlin (SYSU)

Session Classification: TeV

Contribution ID: **153** Type: **not specified**

Search for a standard model-like Higgs boson in the mass range between 70 and 110 GeV GeV in the diphoton final state in proton-proton collisions at 13 TeV (CMS)

Friday, November 17, 2023 3:00 PM (15 minutes)

Presenter: TAO (陶), Junquan (军全) (IHEP, CAS)

Session Classification: TeV

Contribution ID: **154** Type: **not specified**

Evidence for the Higgs boson decay to a Z boson and a photon at the

Presenter: HE, Mingxu (IHEP)

Session Classification: TeV

Contribution ID: **156** Type: **not specified**

Run2 combination of the Higgs boson decay to a Z boson and a photon at the LHC

Friday, November 17, 2023 4:40 PM (15 minutes)

Presenter: ZHANG, Mingtao (PKU)

Session Classification: TeV

Contribution ID: **157** Type: **not specified**

Interpretations of the measurements of Higgs boson production and decay rates and differential cross-sections based on the Nature paper(remote)

Friday, November 17, 2023 4:55 PM (15 minutes)

Presenter: ZHU, Yifan (SJTU)

Session Classification: TeV

Contribution ID: **158** Type: **not specified**

CMS Higgs and double Higgs combinations (Remote)

Friday, November 17, 2023 5:10 PM (15 minutes)

Presenter: GUO, Jialin (IHEP)

Session Classification: TeV

Contribution ID: **159** Type: **not specified**

Measurement of ttW/ttH production in multilepton final states w 2 data

Friday, November 17, 2023 5:25 PM (15 minutes)

Presenter: JIA, Chen (山东大学)

Session Classification: TeV

Contribution ID: **160** Type: **not specified**

Measurement of Higgs boson decaying into $b\bar{b}$ using Run2 dataset at the ATLAS experiment

Friday, November 17, 2023 5:40 PM (15 minutes)

Presenter: HAN, Jingyi (山东大学)

Session Classification: TeV

Contribution ID: **161** Type: **not specified**

Non-prompt Λc+ production with machine learning in p–Pb collisions at √sNN = 5.02 TeV with ALICE

Friday, November 17, 2023 2:00 PM (15 minutes)

Presenter: LU, Pengzhong

Session Classification: HF/HI/QCD

Contribution ID: **162** Type: **not specified**

ALICE 实验超氚产生测量 (remote)

Friday, November 17, 2023 2:15 PM (15 minutes)

Presenter: WANG, yuanzhe (Fudan University)

Session Classification: HF/HI/QCD

Contribution ID: **163** Type: **not specified**

Study of heavy-flavor physics via semi-muonic decays with ALICE

Friday, November 17, 2023 2:30 PM (15 minutes)

Presenter: ZHANG, Maolin

Session Classification: HF/HI/QCD

Contribution ID: **164** Type: **not specified**

ALICE 实验轻核动量关联研究 (Remote)

Friday, November 17, 2023 2:45 PM (15 minutes)

Presenter: WANG, Dongfang (Fudan Univ. (CN))

Session Classification: HF/HI/QCD

Contribution ID: **165** Type: **not specified**

Measurement of Ωc branching-fraction ratio at ALICE

Friday, November 17, 2023 3:00 PM (15 minutes)

Presenter: CHENG, Tiantian (CCNU)

Session Classification: HF/HI/QCD

Contribution ID: **166** Type: **not specified**

Pinning down the origin of collectivity in small systems with ALICE(Remote)

Friday, November 17, 2023 3:15 PM (15 minutes)

Presenter: ZHAO, Mingrui

Session Classification: HF/HI/QCD

Contribution ID: **167** Type: **not specified**

Probing the nuclear structure with multiparticle correlation in Xe–Xe collisions

Saturday, November 18, 2023 8:30 AM (15 minutes)

Presenter: LU, Zhiyong (CIAE(中国原子能科学研究院))

Session Classification: HF/HI/QCD

Contribution ID: **168** Type: **not specified**

基于 run3 数据的强子-奇异粒子关联研究现状

Saturday, November 18, 2023 8:45 AM (15 minutes)

Presenter: CUI, Kai

Session Classification: HF/HI/QCD

Contribution ID: **169** Type: **not specified**

Measurement of inclusive J/Ψ and Ψ(2S) production at midrapidity in pp collisions at 13.6 TeV with ALICE

Saturday, November 18, 2023 9:00 AM (15 minutes)

Presenter: YUAN, Zhang

Session Classification: HF/HI/QCD

Contribution ID: **170** Type: **not specified**

Non-prompt J/Ψ production in pp collisions with ALICE

Saturday, November 18, 2023 9:15 AM (15 minutes)

Presenter: GUO, Wenda (Central China Normal University)

Session Classification: HF/HI/QCD

Contribution ID: **171** Type: **not specified**

Measurement of inclusive J/Ψ polarization at midrapidity in pp collisions at 13.6 TeV with ALICE

Saturday, November 18, 2023 9:30 AM (15 minutes)

Presenter: XIONG, Zhenjun

Session Classification: HF/HI/QCD

Contribution ID: **172** Type: **not specified**

Ξc0 production vs multiplicity via hadronic decay in pp at 13 TeV

Saturday, November 18, 2023 9:45 AM (15 minutes)

Presenter: FANG, Tao

Session Classification: HF/HI/QCD

Contribution ID: **173** Type: **not specified**

Study of strange hadron production in jets and the underlying events with ALICE

Friday, November 17, 2023 4:20 PM (15 minutes)

Presenter: XU, Lang

Session Classification: HF/HI/QCD

Contribution ID: **174** Type: **not specified**

ALICE 实验小系统碰撞中集体流研究 (Remote)

Friday, November 17, 2023 4:35 PM (15 minutes)

Presenter: WU, Wenya (Fudan Univ. (CN))

Session Classification: HF/HI/QCD

Contribution ID: **175** Type: **not specified**

ALICE 实验手征反常效应研究 (Remote)

Friday, November 17, 2023 5:05 PM (15 minutes)

Presenter: 王, 淳正 (复旦大学)

Session Classification: HF/HI/QCD

Contribution ID: **176** Type: **not specified**

Measurement of the prompt and non-prompt J/Ψ production in Pb–Pb collisions at 5.02 TeV with ALICE

Friday, November 17, 2023 5:20 PM (15 minutes)

Presenter: ZHU, Senjie

Session Classification: HF/HI/QCD

Contribution ID: **177** Type: **not specified**

Study of jet quenching effects using jet-hadron correlations with ALICE(Remote)

Friday, November 17, 2023 5:35 PM (15 minutes)

Presenter: HOU, Yongzhen

Session Classification: HF/HI/QCD

Contribution ID: **178** Type: **not specified**

Study of beauty quark production properties via non-prompt D mesons with ALICE

Friday, November 17, 2023 4:50 PM (15 minutes)

Presenter: 张, 明宇 (华中师范大学)

Session Classification: HF/HI/QCD

Contribution ID: **181** Type: **not specified**

New perspectives on UV divergences of loops and the hierarchy problem

Friday, November 17, 2023 5:40 PM (20 minutes)

Presenter: JIA, Lianbao

Session Classification: Theory

Contribution ID: **182** Type: **not specified**

[Cancel] Mono-X Signatures of an Absorbed Fermionic Dark Matter at the LHC

Saturday, November 18, 2023 8:30 AM (20 minutes)

Presenter: MA, Kai (Shaanxi University of Technology)

Session Classification: TeV

Contribution ID: **183** Type: **not specified**

Search for direct production of electroweakinos in final states with one lepton, jets and missing transverse momentum with the ATLAS detector

Saturday, November 18, 2023 8:50 AM (15 minutes)

Presenter: ZHAI, Mingjie (IHEP)

Session Classification: TeV

Contribution ID: **184** Type: **not specified**

Search for direct production of stau pairs in $\sqrt{s} = 13$ TeV pp collisions with the ATLAS detector

Saturday, November 18, 2023 9:05 AM (15 minutes)

Presenter: 郭, 蕾 (IHEP)

Session Classification: TeV

Contribution ID: **185** Type: **not specified**

Search for lepton-flavour violation in high-mass dilepton final states using ATLAS run2 data

Saturday, November 18, 2023 9:20 AM (15 minutes)

Presenter: ZHANG, Luxin (中国科学技术大学)

Session Classification: TeV

Contribution ID: **186** Type: **not specified**

Search for dark photons in rare Z boson decays with the ATLAS d

Saturday, November 18, 2023 9:35 AM (15 minutes)

Presenter: LIU, Mingyi (USTC)

Session Classification: TeV

Contribution ID: **187** Type: **not specified**

Search for a new Z’ gauge boson in the μμν final state with the A

Presenter: YAO, Yanqi

Session Classification: TeV

Contribution ID: **188** Type: **not specified**

A search for heavy right-handed Majorana neutrinos with ATLAS

Sunday, November 19, 2023 5:35 PM (15 minutes)

Presenter: ZHAO, Tongbin (山东大学)

Session Classification: TeV

Contribution ID: **189** Type: **not specified**

Progress of the RPC development towards the producition for ATLAS Phase-II upgrade

Sunday, November 19, 2023 2:00 PM (15 minutes)

Presenter: DU, Dongshuo (USTC)

Session Classification: Instrumental

Contribution ID: **190** Type: **not specified**

CMS-GEM upgrade progress and GEM assembly at Peking University

Sunday, November 19, 2023 2:15 PM (15 minutes)

Presenter: JIANG, Chuqiao (PKU)

Session Classification: Instrumental

Contribution ID: **192** Type: **not specified**

CMS-GEM ME0 electronics board design, prototyping and production plan

Sunday, November 19, 2023 2:30 PM (15 minutes)

Presenter: LI, Zhe (PKU)

Session Classification: Instrumental

Contribution ID: **193** Type: **not specified**

CMS iRPC Backend and Trigger status

Sunday, November 19, 2023 2:45 PM (15 minutes)

Presenter: 赵, 京周

Session Classification: Instrumental

Contribution ID: **194** Type: **not specified**

Data analsys for iRPC BE/TRG beam test

Sunday, November 19, 2023 3:00 PM (15 minutes)

Presenter: DIAO, Weizhuo (IHEP)

Session Classification: Instrumental

Contribution ID: **195** Type: **not specified**

Grid computing for LHC experiments in China

Sunday, November 19, 2023 3:15 PM (15 minutes)

Presenter: JIANG, Xiaowei (IHEP)

Session Classification: Instrumental

Contribution ID: **196** Type: **not specified**

Dark SHINE Simulation software framework

Presenter: ZHU, Xuliang

Session Classification: Instrumental

Contribution ID: **197** Type: **not specified**

IHEP ROC Status Report

Sunday, November 19, 2023 3:30 PM (15 minutes)

Presenter: Prof. CHEN, Ye (IHEP)

Session Classification: Instrumental

Contribution ID: **198** Type: **not specified**

Run3 CMS EGamma performance (Remote)

Sunday, November 19, 2023 4:20 PM (15 minutes)

Presenter: KAPOOR, Anshul

Session Classification: Instrumental

Contribution ID: **199** Type: **not specified**

Optimal transport solutions for pileup mitigation at hadron colliders (Remote)

Sunday, November 19, 2023 4:35 PM (15 minutes)

Presenter: IEMMI, Fabio

Session Classification: Instrumental

Contribution ID: **200** Type: **not specified**

Ultimate calibration and performance of the CMS Electromagnetic Calorimeter in LHC Run 2(Remote)

Sunday, November 19, 2023 4:50 PM (15 minutes)

Presenter: WANG, Jin (IHEP)

Session Classification: Instrumental

Contribution ID: **201** Type: **not specified**

RPC operation in the ATLAS experiment(Remote)

Sunday, November 19, 2023 5:05 PM (15 minutes)

Presenter: MOHAMED, Zaazoua

Session Classification: Instrumental

Contribution ID: **202** Type: **not specified**

Tau trigger scale factor studies

Sunday, November 19, 2023 5:20 PM (15 minutes)

Presenters: GUO, Botao (Peking University); Prof. SUN, Xiaohu (Peking University)

Session Classification: Instrumental

Contribution ID: **203** Type: **not specified**

CMS DQM-DC operations and performance during Run3 data-taking

Sunday, November 19, 2023 5:35 PM (15 minutes)

Presenter: JAVAID, Tahir

Session Classification: Instrumental

Contribution ID: **204** Type: **not specified**

Constituent-based W-boson tagging with the ATLAS detector

Sunday, November 19, 2023 5:50 PM (15 minutes)

Presenter: WANG (王), Shudong (书栋) (IHEP, CAS)

Session Classification: Instrumental

Contribution ID: **205** Type: **not specified**

Performance of heavy flavour jet identification in boosted topologies with full Run2 data

Sunday, November 19, 2023 6:05 PM (15 minutes)

Presenter: LI, Congqiao (Peking University)

Session Classification: Instrumental

Contribution ID: **206** Type: **not specified**

Observation of WWɣ production

Sunday, November 19, 2023 2:15 PM (15 minutes)

Presenter: GUAN, Zhe (PKU)

Session Classification: TeV

Contribution ID: **207** Type: **not specified**

VBS Wgamma at CMS

Sunday, November 19, 2023 2:30 PM (15 minutes)

Presenter: Prof. SUN, Xiaohu (Peking University)

Session Classification: TeV

Contribution ID: **208** Type: **not specified**

ZZ cross section measurement at 13.6TeV with the ATLAS detecto

Sunday, November 19, 2023 2:45 PM (15 minutes)

Presenter: WU, Xingyu (USTC)

Session Classification: TeV

Contribution ID: **209** Type: **not specified**

Evidence of pair-production of longitudinally polarized vector bosons in ZZ4l fina

Sunday, November 19, 2023 3:00 PM (15 minutes)

Presenter: DU, Dongshuo (USTC)

Session Classification: TeV

Contribution ID: **210** Type: **not specified**

Observation of WZy production in pp collicisions with ATLAS detector

Sunday, November 19, 2023 2:00 PM (15 minutes)

Presenter: AI, Xiaocong (Zhengzhou Univ.)

Session Classification: TeV

Contribution ID: **211** Type: **not specified**

Precise measurement of Z…+jets final state and search for neutral tri

Sunday, November 19, 2023 3:15 PM (15 minutes)

Presenter: LIU, Danning (TDLI, SJTU)

Session Classification: TeV

Contribution ID: **212** Type: **not specified**

Observation and measurement of the cross-sections of the electroweak and total production of a Z pair in association with two jets in pp collisions at √s = 13TeV with the ATLAS detector (remote)

Sunday, November 19, 2023 3:30 PM (15 minutes)

Presenter: LIU, Qibin (TDLI, SJTU)

Session Classification: TeV

Contribution ID: **213** Type: **not specified**

Observation of Four-Top-Quark Production in the Multi-lepton Final State with the ATLAS Experiment (remote)

Sunday, November 19, 2023 3:45 PM (15 minutes)

Presenter: CHEN, Xiang (SJTU)

Session Classification: TeV

Contribution ID: **214** Type: **not specified**

Search for heavy Higgs bosons decaying to atop quark pair with

Sunday, November 19, 2023 4:20 PM (15 minutes)

Presenter: CAI, Yizhou

Session Classification: TeV

Contribution ID: **215** Type: **not specified**

Searchfor the a new high-mass resonances decaying into Zγ final state in pp collisions at √s = 13 TeV with the ATLAS detector

Sunday, November 19, 2023 4:35 PM (15 minutes)

Presenter: ALVES, Fabio

Session Classification: TeV

Contribution ID: **216** Type: **not specified**

Search forleptoquarks decaying into the bτ final state in pp collis 13TeVwith the ATLASdetector

Sunday, November 19, 2023 4:50 PM (15 minutes)

Presenter: CHE, Yimin

Session Classification: TeV

Contribution ID: **217** Type: **not specified**

Search for the production of an excited bottom quark decaying to tW (leptonic top + hadronic W) in pp collisions at 13 TeV (CMS)

Sunday, November 19, 2023 5:05 PM (15 minutes)

Presenter: HOU, Baorui (IHEP)

Session Classification: TeV

Contribution ID: **218** Type: **not specified**

Search for a new heavy boson W' decaying to a top quark and a b

Sunday, November 19, 2023 5:20 PM (15 minutes)

Presenter: YUAN, Rui (TDLI, SJTU)

Session Classification: TeV

Contribution ID: **219** Type: **not specified**

Search for □□□/□ ⟶ □□□□ production in a final state 2 with one lepton or two opposite-sign leptons using the full Run 2 □□ collisions data at √□ = 13 TeV

Saturday, November 18, 2023 10:05 AM (15 minutes)

Presenter: MAO, Lining (SJTU)

Session Classification: TeV

Contribution ID: **221** Type: **not specified**

Observation and differential cross-section measurements of electroweak ⊠⊠⊠ production in ⊠⊠ collisions at √⊠ = 13 TeV with the ATLAS detector (Remote)

Sunday, November 19, 2023 2:20 PM (15 minutes)

Presenter: WANG, Zhen (TDLI, SJTU)

Session Classification: HF/HI/QCD

Contribution ID: **222** Type: **not specified**

Measurements of energy correlators and alphas extraction

Sunday, November 19, 2023 2:35 PM (15 minutes)

Presenter: 林, 桢

Session Classification: HF/HI/QCD

Contribution ID: **223** Type: **not specified**

First Direct Observation of Collider Neutrinos with FASER

Sunday, November 19, 2023 2:50 PM (15 minutes)

Presenter: LIU, Jinfeng (Tsinghua Univ.)

Session Classification: HF/HI/QCD

Contribution ID: **224** Type: **not specified**

Study of isolated photon production with ALICE

Sunday, November 19, 2023 3:05 PM (15 minutes)

Presenter: XU, Ran (CCNU)

Session Classification: HF/HI/QCD

Contribution ID: **225** Type: **not specified**

First Results from the Search for Dark Photons with the FASER D

Saturday, November 18, 2023 9:50 AM (15 minutes)

Presenter: PANG, Hao (清华大学)

Session Classification: TeV

Contribution ID: **226** Type: **not specified**

Combination and summary of ATLAS dark matter searches interpreted in the context of 2HDM+a

Sunday, November 19, 2023 3:20 PM (15 minutes)

Presenter: VU, Ngoc Khanh (Tsung-Dao Lee Institute, Shanghai Jiao Tong University)

Session Classification: HF/HI/QCD

Contribution ID: **227** Type: **not specified**

b-tagging trigger calibraion with ttbar event

Saturday, November 18, 2023 10:50 AM (1 minute)

Presenter: MIAO, Yuhui

Session Classification: Poster Session

Contribution ID: **228** Type: **not specified**

Improved Asymptotic Formulae for Statistical Interpretation Based

Presenters: XIA, LIGANG (Nanjing University); ZHANG, Yan

Contribution ID: **229** Type: **not specified**

Status of Progress of CEPC Calorimeter R&D

Saturday, November 18, 2023 8:30 AM (20 minutes)

Presenter: Prof. LIU, Yong (IHEP)

Session Classification: Instrumental

Contribution ID: **230** Type: **not specified**

CEPC Flavor Physics

Saturday, November 18, 2023 8:50 AM (20 minutes)

Presenter: Prof. CALIBBI, Lorenzo (Nankai University)

Session Classification: Instrumental

Contribution ID: **231** Type: **not specified**

Silicon detector at the CEPC

Saturday, November 18, 2023 9:10 AM (20 minutes)

Presenter: Prof. LIANG, Zhijun (IHEP)

Session Classification: Instrumental

Contribution ID: **232** Type: **not specified**

CEPC New Physics Studies

Saturday, November 18, 2023 9:30 AM (20 minutes)

Presenter: Prof. LIU, Jia (PKU)

Session Classification: Instrumental

Contribution ID: **233** Type: **not specified**

Electroweak Physics at the CEPC

Saturday, November 18, 2023 9:50 AM (20 minutes)

Presenter: Prof. GU, Jiayin (Fudan University)

Session Classification: Instrumental

Contribution ID: **234** Type: **not specified**

Consideration on CEPC Electronics

Saturday, November 18, 2023 10:10 AM (20 minutes)

Presenter: Prof. WEI, Wei (IHEP)

Session Classification: Instrumental

Contribution ID: **235** Type: **not specified**

“小爆炸”：相对论重离子碰撞

Saturday, November 18, 2023 4:00 PM (1 hour)

Presenter: Prof. MA, Yugang (Fudan Univ. (CN))

Session Classification: Public Lecture

Contribution ID: **236** Type: **not specified**

Performance of ATLAS Photon ID

Saturday, November 18, 2023 10:52 AM (1 minute)

Presenter: LIU, Kang (TDLI, SJTU)

Session Classification: Poster Session

Contribution ID: **237** Type: **not specified**

Search for Higgs pairs in the bbyy final state with the ATLAS Exp

Saturday, November 18, 2023 10:53 AM (1 minute)

Presenter: SHEN, Qiuping (SJTU/TDLI)

Session Classification: Poster Session

Contribution ID: **238** Type: **not specified**

Performance and Calibration of quark/gluon jet tagger and search for n

Saturday, November 18, 2023 10:54 AM (1 minute)

Presenter: SU, Wanyun (TDLI, SJTU)

Session Classification: Poster Session

Contribution ID: **239** Type: **not specified**

Test results of Quality Control Test Structure of the USTC-IME LGAD pre-production

Saturday, November 18, 2023 10:55 AM (1 minute)

Presenter: REN, Haoquan

Session Classification: Poster Session

Contribution ID: **240** Type: **not specified**

Improvement of jet reconstruction in forward region with time information from HGTD.

Saturday, November 18, 2023 10:56 AM (1 minute)

Presenter: LI, Zhijie

Session Classification: Poster Session

Contribution ID: **241** Type: **not specified**

ACP technique for flip chip bonding

Saturday, November 18, 2023 10:57 AM (1 minute)

Presenter: WANG, Aonan (USTC)

Session Classification: Poster Session

Contribution ID: **242** Type: **not specified**

LGAD based Beam monitor development

Saturday, November 18, 2023 10:58 AM (1 minute)

Presenter: FAN, yunyun (IHEP)

Session Classification: Poster Session

Contribution ID: **243** Type: **not specified**

Dark Photon search initiative at SHINE facility (Dark SHINE)

Saturday, November 18, 2023 10:59 AM (1 minute)

Presenter: CHEN, Jing (SJTU/TDLI)

Session Classification: Poster Session

Contribution ID: **244** Type: **not specified**

Dark SHINE Simulation software framework

Saturday, November 18, 2023 11:00 AM (1 minute)

Presenter: ZHU, Xuliang (TDLI, SJTU)

Session Classification: Poster Session

Contribution ID: **245** Type: **not specified**

R&D of Dark SHINE LYSO Crystal ECAL

Saturday, November 18, 2023 11:01 AM (1 minute)

Presenter: ZHAO, Zhiyu (TDLI, SJTU)

Session Classification: Poster Session

Contribution ID: **246** Type: **not specified**

R&D of Dark SHINE Strip Tracker

Saturday, November 18, 2023 11:03 AM (1 minute)

Presenter: LIU, Kang (TDLI, SJTU)

Session Classification: Poster Session

Contribution ID: **247** Type: **not specified**

R&D of Dark SHINE Hadronic Calorimeter (HCAL)

Saturday, November 18, 2023 11:02 AM (1 minute)

Presenters: ZHU, Chunxiang (SJTU/TDLI); YUAN, Rui (TDLI, SJTU); WANG, Zhen (TDLI, SJTU)

Session Classification: Poster Session

Contribution ID: **248** Type: **not specified**

Development of readout electronics for Dark SHINE ECAL

Saturday, November 18, 2023 11:04 AM (1 minute)

Presenters: TANG, Jiannan (SJTU); WU, Weihao (SJTU); GUO, Yihan (SJTU)

Session Classification: Poster Session

Contribution ID: **249** Type: **not specified**

Simulation study of the muon flux produced by 1.6 GeV electrons in a bo

Saturday, November 18, 2023 11:06 AM (1 minute)

Presenter: Mr LIU, Fangchao (SJTU)

Session Classification: Poster Session

Contribution ID: **250** Type: **not specified**

Particle physics opportunities at the Shanghai SHINE facility with secondary beams

Saturday, November 18, 2023 11:05 AM (1 minute)

Presenter: Prof. KHAW, Kim Siang (TDLI, SJTU)

Session Classification: Poster Session

Contribution ID: **251** Type: **not specified**

Development of a muon spin polarization monitor for the J-PARC Muon g-2/EDM experiment

Saturday, November 18, 2023 11:07 AM (1 minute)

Presenter: LYU, Meng (TDLI, SJTU)

Session Classification: Poster Session

Contribution ID: **252** Type: **not specified**

Muon Lifetime Measurement with Run-1 data of Muon g-2 Experiment at Fermilab

Saturday, November 18, 2023 11:08 AM (1 minute)

Presenter: LU, Zejia (SJTU)

Session Classification: Poster Session

Contribution ID: **253** Type: **not specified**

Develop-
ment of a muon entrance trigger system for the PSI muEDM expe

Saturday, November 18, 2023 11:09 AM (1 minute)

Presenter: HU, Tianqi (TDLI, SJTU)

Session Classification: Poster Session

Contribution ID: **254** Type: **not specified**

Performance of a prototype PSI muEDM muon entrance detector measu

Saturday, November 18, 2023 11:10 AM (1 minute)

Presenter: WONG, Guan Ming (TDLI, SJTU)

Session Classification: Poster Session

Contribution ID: **255** Type: **not specified**

Reconstruction of Neutrino Events in TRIDENT Project based on GNN

Saturday, November 18, 2023 11:11 AM (1 minute)

Presenter: MO, Cen (SJTU)

Session Classification: Poster Session