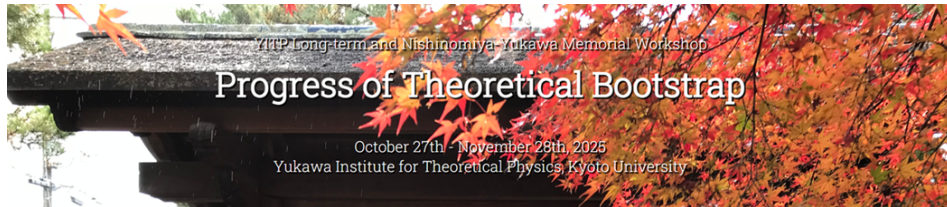


Progress of Theoretical Bootstrap



Report of Contributions

Contribution ID: **137**

Type: **not specified**

Registration

Monday, October 27, 2025 8:30 AM (50 minutes)

Contribution ID: **138**

Type: **not specified**

Opening

Monday, October 27, 2025 9:20 AM (20 minutes)

Contribution ID: 157

Type: **not specified**

Slava Rychkov "The renaissance of axiomatic methods in quantum field theory"

Tuesday, November 4, 2025 11:00 AM (1 hour)

The textbook approach to quantum field theory is to start from the Lagrangian and then either do perturbation theory or, if the theory is strongly coupled, resort to lattice Monte Carlo simulations. Recently there has been renewed interest in developing and applying "bootstrap methods", which have different spirit. They use nonperturbatively valid "axioms" to obtain concrete numerical results about experimentally relevant strongly coupled QFTs. After a pedagogical background introduction, I will describe these bootstrap methods and some of their applications in the study of critical phenomena and scattering processes.

Contribution ID: **158**

Type: **not specified**

Andreas Stergiou "Redundancy Channels in the Conformal Bootstrap"

Wednesday, November 5, 2025 11:00 AM (1 hour)

Contribution ID: 159

Type: **not specified**

Petr Kravchuk "Non-linearly realized symmetries, anomalies, and defect four-point functions"

Thursday, November 6, 2025 11:00 AM (1 hour)

Contribution ID: **160**

Type: **not specified**

David Poland "This is the Moment"

Monday, November 10, 2025 11:00 AM (1 hour)

Contribution ID: **161**

Type: **not specified**

Volker Schomerus "Conformal data from thermal correlators"

Monday, November 10, 2025 2:00 PM (1 hour)

Contribution ID: 162

Type: **not specified**

Sridip Pal "Universality of spectrum at large spin in non-rational 2D CFT"

Monday, November 10, 2025 3:30 PM (1 hour)

Abstract: In a unitary 2D modular invariant CFT, the high-energy density of states is universal and follows the famous Cardy formula, the precise version of which requires an averaging over an order-one window. In non-rational 2D CFTs, an extended version of the Cardy formula exists for the density of states with finite twist and large spin. In this talk, we will answer in which sense this extended formula gives a coarse-grained approximation of finite twist, large spin density of states. In particular, using elementary complex analysis methods, we prove that 1) the averaging over spin is NOT required and 2) if appropriately smeared over a window of twist, the extended Cardy formula is valid up to $O(J^{-N})$ for any $N > 0$. This is much stronger/universal than the usual Cardy formula at large energy. Furthermore, by making the size of twist-window shrinking to 0 as $J \rightarrow \infty$, we prove that the spectrum is dense in the large spin limit i.e, the spacing of operators with large spin and twist lying in a bound subinterval of $((c-1)/12, \infty)$ goes to 0 at least as fast as $J^{-1/4}$ as $J \rightarrow \infty$. This is based on work with Jiaxin Qiao, Balt C van Rees, arXiv: 2505.02897

Contribution ID: 163

Type: **not specified**

Dalimil Mazac " L-functions and the conformal bootstrap"

Tuesday, November 11, 2025 9:30 AM (1 hour)

Recently, a close parallel emerged between conformal field theory in general dimension and the theory of automorphic forms. I will review this connection and explain how it can be leveraged to make rigorous progress on central open problems of number theory, using methods borrowed from the conformal bootstrap. In particular, I will use the crossing equation to prove new subconvex bounds on L-functions. Based on work with Adve, Bonifacio, Kravchuk, Pal, Radcliffe, and Rogelberg: <https://arxiv.org/abs/2508.20576>.

Contribution ID: **164**

Type: **not specified**

Shiraz Minwalla "Semi-universality of CFT_d entropy at large J "

Tuesday, November 11, 2025 11:00 AM (1 hour)

Contribution ID: 165

Type: **not specified**

Yuto Moriwaki "2d Conformal bootstrap equation and axiomatic QFT"

Tuesday, November 11, 2025 2:00 PM (1 hour)

Axiomatic quantum field theory is a mathematically rigorous formulation of quantum field theory proposed in the 1950s.

Notable frameworks include the Wightman axioms for quantum fields on Minkowski spacetime and the Osterwalder-Schrader axioms, formulated via Schwinger functions on Euclidean spacetime.

In this talk, based on joint work with M. S. Adamo and Y. Tanimoto, we will discuss how, in two dimensions, one can construct an axiomatic QFT from the bootstrap equations under the assumption that the theory enjoys a sufficiently large chiral symmetry.

Contribution ID: **166**

Type: **not specified**

Vasileios Niarchos "Deep Finite Temperature Bootstrap"

Wednesday, November 12, 2025 9:30 AM (1 hour)

Contribution ID: **167**

Type: **not specified**

Parijat Dey "Towards bootstrapping de Sitter correlators"

Wednesday, November 12, 2025 11:00 AM (1 hour)

Towards bootstrapping de Sitter correlators

Contribution ID: **168**

Type: **not specified**

Nathan Benjamin "Scalar partition functions in 2d CFTs"

Wednesday, November 12, 2025 2:00 PM (1 hour)

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

Denis Karateev "Bounds on Conserved Currents in 4d CFTs"

Thursday, November 13, 2025 9:30 AM (1 hour)

I will discuss recent progress in constraining four-dimensional conformal field theories with Abelian conserved currents using the conformal bootstrap. After setting up the bootstrap problem for the four-point function of $U(1)$ currents, I will present numerical bounds on operator dimensions and on physical quantities such as the ratio between the 't Hooft anomaly and the current central charge. Finally, I will describe recent developments in the automatic construction of spinning conformal blocks in 4d, which enable systematic bootstrap analyses involving non-Abelian conserved currents and stress tensors.

Contribution ID: 170

Type: **not specified**

Valentina Prilepina "Illuminating CFTs with the Higher-Point Bootstrap: A Powerful Approach"

Thursday, November 13, 2025 11:00 AM (1 hour)

In this talk, I will present a practical realization of the higher-point conformal bootstrap, focusing on the five-point comb channel implementation thereof. I will consider 5-point scalar correlators in d -dimensional conformal field theories (CFTs). I will begin by laying out a robust algorithm for the efficient numerical evaluation of conformal blocks for exchanged primary operators of arbitrary spin. I will then describe an explicit implementation of the 5-point bootstrap.

With this, I will proceed to study 5-point correlators in the 3d critical Ising model. I will examine correlators involving σ , and ϵ , truncating the operator product expansion (OPE) to include contributions due to operators with

conformal dimension below a certain cutoff. In each case, I will approximate the remaining contributions by their counterparts in a suitable disconnected five-point correlator.

Finally, I will discuss the results obtained through the five-point bootstrap for a number of OPE coefficients involving two or more spinning operators. While these coefficients are nontrivial to access by means of the four-point bootstrap, they are within ready reach of the higher-point bootstrap, where we are able to compute a number of OPE coefficients with greater accuracy than previous methods. I will compare some newly-determined OPE coefficients to corresponding results from the four-point bootstrap and the fuzzy sphere regularization technique. At the end, I will give a preview of the six-point snowflake channel implementation of this method. This analysis will ultimately establish the higher-point bootstrap as a powerful tool for studying CFTs.

Contribution ID: 171

Type: **not specified**

Fabiana De Cesare "Disturbing news about the $2+\epsilon$ expansion"

Thursday, November 13, 2025 2:00 PM (1 hour)

The $O(N)$ Non-Linear Sigma Model (NLSM) in $d=2+\epsilon$ has long been conjectured to describe the same conformal field theory as the Wilson-Fisher $O(N)$ fixed point obtained from the $(\phi^2)^2$ model in $d=4-\epsilon$. In this talk, we put this conjecture into question, building on the recent observation [Jones,2024] that the NLSM CFT possesses a protected operator with dimension $N-1$, which is instead absent in the WF $O(N)$ CFT. We propose several scenarios that may explain this discrepancy.

Contribution ID: 172

Type: **not specified**

Zechuan Zheng ” The Analytic Functional in the Numerical Conformal Bootstrap”

Friday, November 14, 2025 9:30 AM (1 hour)

Contribution ID: 173

Type: **not specified**

Wenliang Li "Accurate boundary bootstrap for the 3d $O(N)$ normal universality class"

Friday, November 14, 2025 11:00 AM (1 hour)

Accurate boundary bootstrap for the 3d $O(N)$ normal universality class

Contribution ID: 174

Type: **not specified**

Shai Chester "Bootstrapping critical 3d gauge theories"

Friday, November 14, 2025 2:00 PM (1 hour)

We consider the simplest class of 3d gauge theories, which is N complex scalar fields coupled to an Abelian gauge field. For large N this theory is known to flow to a CFT with $SU(N) \times U(1)$ symmetry, but for finite N there is controversy in the literature. The $N=2$ case is particularly famous, as it is believed to describe the Neel-VBS phase transition, which might be experimentally realizable. Previous lattice studies suggested the $SU(2) \times U(1)$ symmetry is enhanced to $SO(5)$, but the assumption of no relevant $SO(5)$ singlet was ruled out by the bootstrap. We perform a bootstrap study assuming $SO(5)$ symmetry, and find a point on the boundary of the allowed region that matches large N predictions, and was recently confirmed by a newer lattice study. We also perform a bootstrap study of the $N=3$ theory, and find a point on the boundary of the allowed region that matches large N , large charge, and lattice predictions.

Contribution ID: 175

Type: **not specified**

Poster Session

Wednesday, November 5, 2025 3:30 PM (2 hours)

Stanislav Filatov "Geometry of Two-Qubit Entanglement on Two Bloch Spheres"
Yuma Furuta "On the quadratic equations for detecting duality symmetries of compact boson CFTs"
Samuel Laliberte "Quantum mechanics bootstrap and supersymmetry"
Yuefeng Liu "Bootstrap about new crosscap states and non-invertible symmetry"
Souparna Nath "Complexity Growth, Krylov-Wigner function and Gravity"
Toshiki Onagi "Do Conformal Bootstraps Dream of Duality?"
Dongsheng Ge
Ahmed Abdalla "Foundational Inconsistencies in the No-Boundary Proposal"
Ross Dempsey "Integral constraints for the superconformal bootstrap"
Indranil Dey "A universal inequality on the unitary 2D CFT partition function"
Mohammad Reza Khansari "Bubbles in AdS"
Kamran Salehi Vaziri "Non-perturbative cosmological bootstrap: A construction of de Sitter late-time boundary"
kangning liu "Supersymmetric complex Liouville string"

Contribution ID: **176**

Type: **not specified**

Opening

Tuesday, November 4, 2025 10:50 AM (10 minutes)

Contribution ID: 177

Type: **not specified**

Alessandro Piazza "Bootstrap bounds on Yang-Mills in AdS"

Tuesday, November 4, 2025 2:30 PM (30 minutes)

Yang-Mills theory in AdS_4 with Dirichlet boundary conditions is expected to undergo a deconfinement-confinement transition as the AdS radius varies, as the global symmetry of the boundary CFT cannot hold in flat space. We apply the conformal bootstrap to four-point functions of non-abelian conserved currents in 3d to place bounds on proposed mechanisms for the transition. We rule out the scenario in which the boundary current decouples by bounding the current central charge. We also obtain bounds on the dimension of the lightest scalar operators, which disfavour a bulk-Higgs mechanism and instead support a transition triggered by a scalar singlet becoming marginal.

Contribution ID: 178

Type: **not specified**

Marten Reehorst " Bootstrapping the Simplest Deconfined Quantum Critical Point"

Wednesday, November 5, 2025 2:00 PM (30 minutes)

We study the $N = 3$ case of the $NCCP^{N-1}$ model, which is a field theory of N complex scalars in 3d coupled to an Abelian gauge field with $SU(N) \times U(1)$ global symmetry. Recent evidence suggests the $N = 2$ theory is not critical, which makes the $N = 3$ theory the simplest possibility of deconfined quantum criticality. We apply the conformal bootstrap to correlators of charge $q = 0, 1, 2$ scalar operators under the $U(1)$ symmetry, which gives us access also to $q = 3, 4$ operators. After imposing that only the lowest $q = 0, 1, 2$ scalar operators are relevant, we find that the bootstrap bounds are saturated by the large N prediction for $q = 1, 2, 3, 4$ scalar monopole operator scaling dimensions, which were shown earlier to be accurate even for small N , as well as a lattice prediction for the $q = 0$ non-monopole scalar operator. We also predict the scaling dimensions of the lowest spinning monopole operators, which we match to the large charge prediction for spinning operators. This suggests that the critical $NCCP^2$ model is described by this bootstrap bound.

Contribution ID: 179

Type: **not specified**

Yuan Xin "Yang-Lee Criticality in Various Dimension" (online)

Wednesday, November 5, 2025 2:30 PM (30 minutes)

Yang-Lee criticality is the simplest non-Hermitian conformal field theory. The model was first reported as a phase transition of Ising model in imaginary longitudinal magnetic field more than half a century ago. Since then, many qualitative and quantitative properties of YL criticality have been studied, remarkably, including the fact that the model can be described in Landau-Ginzburg scheme with a scalar $i\phi^3$ theory in $D < 6$ and the fact that the 2D version is an exactly solvable minimal model. In higher dimensions, the model lacks the same level of understanding as the Ising criticality due to its non-Hermitian nature. We report a new study of 3D YL criticality as a phase transition of Fuzzy Sphere model, which facilitates a direct survey of many quantities such as the spectrum and OPE coefficient to high precision. These quantitative results show a beautiful agreement with conformal symmetry and previous estimates from $(6 - \epsilon)$ expansion, high temperature expansion and conformal bootstrap. We also discuss possible approaches in dimensions higher than 3.

Contribution ID: **180**

Type: **not specified**

Francesco Bertucci "Bootstrapping Euclidean lattices"

Thursday, November 6, 2025 2:00 PM (30 minutes)

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

Jiaxin Qiao "QFT as a set of ordinary differential equations"

Thursday, November 6, 2025 2:30 PM (30 minutes)

I will discuss quantum field theories (QFTs) on hyperbolic surface (i.e. Euclidean AdS₂) with a conformal boundary condition. Correlation functions of local operators in such QFTs can be fully characterized by the QFT data: (1) scaling dimensions of boundary operators, (2) boundary operator product expansion (OPE) coefficients, and (3) boundary operator expansion (BOE) coefficients for bulk operators.

We derive a universal set of first-order ordinary differential equations (ODEs) that encode the variation of the QFT data under an infinitesimal change of a bulk relevant coupling. In principle, these ODEs can be used to follow a renormalization group (RG) flow starting from a solvable QFT into a strongly coupled phase and toward the flat-space limit. If time permits, I will also discuss the mechanism of level repulsion, which arises as a natural consequence of the ODEs.

Contribution ID: **182**

Type: **not specified**

Free discussion

Tuesday, November 4, 2025 3:30 PM (1 hour)

Contribution ID: **183**

Type: **not specified**

Free discussion

Thursday, November 6, 2025 3:30 PM (1 hour)

Contribution ID: **184**

Type: **not specified**

Sinya Aoki "Derivation of the GKP-Witten relation by symmetry without Lagrangian"

Friday, November 7, 2025 2:00 PM (30 minutes)

Contribution ID: **185**

Type: **not specified**

Wataru Harada "New Crosscap States with Non-Invertible Symmetry in RCFT"

Friday, November 7, 2025 2:30 PM (30 minutes)

Contribution ID: **186**

Type: **not specified**

Shim'on Sukholuski "Conformal Dispersion Relation for Mixed Correlators"

Friday, November 7, 2025 3:00 PM (30 minutes)

Contribution ID: **187**

Type: **not specified**

Guilherme L. Pimentel "Overview of Cosmological Correlators"

Monday, November 17, 2025 9:30 AM (1 hour)

Contribution ID: **188**

Type: **not specified**

Yu-tin Huang "When gravity meets narrow resonances"

Monday, November 17, 2025 11:00 AM (1 hour)

Contribution ID: **189**

Type: **not specified**

David Stefanyszyn

Monday, November 17, 2025 2:00 PM (1 hour)

Contribution ID: 190

Type: **not specified**

Xi Tong "Unitary renormalisation and the quantum breaking of cosmological reality"

Monday, November 17, 2025 3:30 PM (1 hour)

Abstract: Cosmological correlators and the associated wavefunction coefficients serve as a smoking gun towards the physics of inflation at high energy scales. In minimal setups of single-field inflation, wavefunction coefficients are purely real at tree-level due to unitarity, locality and scale invariance, leading to the so-called no-go theorems on parity violation. Such parity-violating correlators are therefore null tests of fundamental principles. Yet interestingly, there exists a twist of plot when quantum loops are involved. We show that such cosmological reality must be spontaneously broken by the renormalisation of UV divergences in de Sitter loops. More specifically, unitarity and analyticity dictate a universal imaginary part from the logarithmic running of the real part of the wavefunction coefficients. We then discuss the implications related to this universality.

Contribution ID: **191**

Type: **not specified**

Alexander Zhiboedov "Scattering on the Coulomb Branch of N=4 SYM"

Tuesday, November 18, 2025 9:30 AM (1 hour)

Contribution ID: **192**

Type: **not specified**

Hayden Lee "A Hidden Pattern in Cosmological Correlators" (online)

Tuesday, November 18, 2025 11:00 AM (1 hour)

Contribution ID: **193**

Type: **not specified**

Shota Komatsu "No Shift, Sherlock"

Tuesday, November 18, 2025 2:00 PM (1 hour)

Contribution ID: **194**

Type: **not specified**

Lucia Gomez Cordova "S-matrix Bootstrap and non-invertible symmetries"

Tuesday, November 18, 2025 3:30 PM (1 hour)

Contribution ID: **195**

Type: **not specified**

Charlotte Sleight "Holograms in the Sky from EAdS"

Wednesday, November 19, 2025 9:30 AM (1 hour)

Contribution ID: **196**

Type: **not specified**

Massimo Taronna

Wednesday, November 19, 2025 11:00 AM (1 hour)

Contribution ID: **197**

Type: **not specified**

Vladimir Rosenhaus "Renormalization Group in far-from-equilibrium states"

Wednesday, November 19, 2025 2:00 PM (1 hour)

Contribution ID: 198

Type: **not specified**

Martin Kruczenski "The Gauge Theory Bootstrap: Predicting pion dynamics from QCD"

Wednesday, November 19, 2025 3:30 PM (1 hour)

Abstract: The Gauge Theory Bootstrap computes the strongly coupled pion dynamics by considering the most general scattering matrix, form factors and spectral densities and matching them with perturbative QCD at high energy and with weakly coupled pions at low energy. In this talk (based on <https://arxiv.org/abs/2505.19332> with Yifei He, ENS, Paris), we show that further constraints on the spectral densities significantly reduce the possible solutions to a small set of qualitatively similar ones. Quantitatively, the precise solution is controlled by the asymptotic value of the form factors and SVZ sum rules. We also introduce an iterative procedure that, starting from a generic feasible point, converges to a unique solution parameterized by the UV input. For the converged solution we compute masses and widths of resonances that appear, scattering lengths and effective ranges of partial waves, low energy coefficients in the effective action. Additionally, we use these results to discuss the thermodynamics of a pion gas including pair correlations of pions with same and opposite charge.

Contribution ID: **199**

Type: **not specified**

Balt van Rees "The flat-space limit of gapped QFTs in AdS"

Thursday, November 20, 2025 9:30 AM (1 hour)

Contribution ID: **200**

Type: **not specified**

Lorenzo Di Pietro "QCD in AdS"

Thursday, November 20, 2025 11:00 AM (1 hour)

Contribution ID: **201**

Type: **not specified**

Zhong-Zhi Xianyu "Massive Inflationary Correlators and Family Trees"

Thursday, November 20, 2025 2:00 PM (1 hour)

Contribution ID: **202**

Type: **not specified**

Joan Elias Miro "Thermal partition function from the S-matrix reloaded"

Friday, November 21, 2025 9:30 AM (1 hour)

Contribution ID: 203

Type: **not specified**

Anna Tokareva "Gravity is weak: consistency constraints on gravitational EFTs"

Friday, November 21, 2025 11:00 AM (1 hour)

Contribution ID: 204

Type: **not specified**

Shuntaro Aoki "From Multi-Exchange Signals to Model Building in Cosmological Correlators"

Friday, November 21, 2025 2:00 PM (1 hour)

Contribution ID: 205

Type: **not specified**

Dong-Gang Wang "Infrared Divergences in de Sitter: wavefunction, density matrix and stochastic inflation"

Friday, November 21, 2025 3:30 PM (1 hour)

Contribution ID: **206**

Type: **not specified**

Ning Su "Bootstrapping the pion scattering problem"

Tuesday, November 25, 2025 11:00 AM (1 hour)

Contribution ID: **207**

Type: **not specified**

Arnab Priya Saha "Bootstrapping string amplitudes"

Tuesday, November 25, 2025 2:00 PM (30 minutes)

Contribution ID: **208**

Type: **not specified**

Felipe Figueroa Vilar "Progress on Regge theory for Dual Model amplitudes"

Tuesday, November 25, 2025 2:30 PM (30 minutes)

Contribution ID: 209

Type: **not specified**

Andrea Cristofoli "The Common On-Shell Language of Black Hole Mergers and Radiation"

Wednesday, November 26, 2025 11:00 AM (1 hour)

Abstract: The two-body problem in general relativity can be described—in the post-Minkowskian expansion—purely in terms of on-shell amplitudes and their classical limit, without ever invoking a Lagrangian or equations of motion. However, beyond this perturbative regime, it is not known whether more complex aspects of binary dynamics—such as the merger phase or the influence of event horizons—can be captured on-shell. In this talk, I will argue that both the merger and the presence of an event horizon can indeed be described on-shell within a common framework based on mass-changing three-point amplitudes. The merger can be viewed as a fusion process once such amplitudes are introduced. Conversely, the presence of an event horizon can be described either as a decay process (Hawking radiation) or as a fusion process (classical wave absorption), following the same logic. This leads to a unified on-shell viewpoint in which black-hole mergers, gravitational-wave absorption, and Hawking radiation—seemingly distinct nonperturbative phenomena—reveal a surprising simplicity and common structure when formulated through on-shell methods. As an application, I will show how to derive conservation laws and compute memory waveforms associated with black-hole mergers, as well as how to describe the effects of Hawking radiation on the two-body problem using only gauge-invariant data and on-shell mass-changing amplitudes.

Contribution ID: **210**

Type: **not specified**

Arundhati Goldar "Bulk Reconstruction in De Sitter Spacetime"

Wednesday, November 26, 2025 2:00 PM (30 minutes)

Contribution ID: **211**

Type: **not specified**

Harry Goodhew "Geometry of the Kinematic Flow"

Wednesday, November 26, 2025 2:30 PM (30 minutes)

Contribution ID: 212

Type: **not specified**

Aditya Hebbar "S-matrix bounds from the conformal bootstrap"

Wednesday, November 26, 2025 3:00 PM (30 minutes)

Contribution ID: 213

Type: **not specified**

Poster Session

Wednesday, November 26, 2025 4:00 PM (2 hours)

Chen-Hsuan Hsu, "Electron-electron and electron-phonon scattering-driven topological phase transitions in helical liquids"

Damien Leflot,

Facundo Rost, "The Cosmological Grassmannian"

Guangzhuo Peng, "Running EFT-hedron with null constraints at loop level"

Kamran Salehi Vaziri, "Non-perturbative cosmological bootstrap: A construction of de Sitter late-time boundary"

Mang Hei Gordon Lee, "Positivity for scalar propagators in dS"

Mehmet Asim Gumus, "A geometric view on Crossing Symmetric Dispersion Relations"

Nathan Meurrens, "Constraints on Long-Range Forces in De Sitter Space"

Simon Metayer, "Recent advances on primal S-matrix bootstrap"

Stanislav Filatov, "Geometry of Two-Qubit Entanglement on Two Bloch Spheres."

Sumer Jaitly "Exact superposition positivity bounds"

Tomoya Inada "Perturbative unitarity bounds on field-space curvature in de Sitter spacetime"

Yongjun Xu "Scalar weak gravity bound from full unitarity"

Yu Wenqi "On the IR dependence, conformal anomaly and renormalization of de Sitter correlators"

Contribution ID: 214

Type: **not specified**

Piotr Tourkine "The S-matrix bootstrap: UV completion, multi-particle screening, and space of the space theories"

Thursday, November 27, 2025 11:00 AM (1 hour)

Contribution ID: 215

Type: **not specified**

Carlos Duaso Pueyo "Boostless cosmological collider bootstrap of tensor bispectra"

Thursday, November 27, 2025 2:00 PM (30 minutes)

Contribution ID: 216

Type: **not specified**

Yu Wenqi "On the IR dependence, conformal anomaly and renormalization of de Sitter correlators"

Thursday, November 27, 2025 2:30 PM (30 minutes)

Contribution ID: **217**

Type: **not specified**

Xi Yin "Revisiting matrix string theory"

Friday, November 28, 2025 11:00 AM (1 hour)

Contribution ID: **218**

Type: **not specified**

Discussions

Friday, November 28, 2025 2:00 PM (1 hour)