High Energy Physics in the Quantum Era

Report of Contributions

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

Introduction to RIKEN iTHEMS

Monday, 2 December 2024 10:15 (15 minutes)

Presenter:　HATSUDA, Tetsuo (RIKEN iTHEMS)

Session Classification:　session

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

Ready for it? Quantum Utility in High Energy Physics

Monday, 2 December 2024 10:30 (45 minutes)

Presenter: LAMM, Hank (fermilab)

Session Classification: session

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

Simulating SU(3) YM theory in the large Nc limit

Monday, 2 December 2024 11:15 (45 minutes)

Presenter: BAUER, Christian (LBNL)

Session Classification: session

Contribution ID: **4**   Type: **not specified**

quantum simulations for high energy physics (tentative)

Monday, 2 December 2024 14:00 (45 minutes)

Presenter: DRAPER, Patrick (University of Illinois Urbana-Champaign)

Session Classification: session

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

Non-Linear Modifications of Quantum Mechanics

Monday, 2 December 2024 14:45 (45 minutes)

Presenter: KAPLAN, David E. (Johns Hopkins University)

Session Classification: session

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

Wormhole teleportation and the SYK model

Tuesday, 3 December 2024 10:45 (45 minutes)

Presenter: LYKKEN, Joseph (fermilab)

Session Classification: session

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

Conformal bootstrap and S-matrix bootstrap approaches to quantum field theory - an overview

Tuesday, 3 December 2024 09:00 (45 minutes)

Presenter: RYCHKOV, Slava (IHES)

Session Classification: session

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

From algorithms to applications: potential roles of quantum computing

Tuesday, 3 December 2024 14:00 (45 minutes)

Presenter: MITARAI, Kosuke (Osaka U.)

Session Classification: session

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

TBA

Tuesday, 3 December 2024 14:45 (45 minutes)

Presenter: STRYKER, Jesse (LBNL)

Session Classification: session

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

Many Body Physics in Superconducting Devices

Wednesday, 4 December 2024 14:45 (45 minutes)

Presenter: WARRINGTON, Neill (MIT)

Session Classification: session

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

Resurgence and Non-perturbative Physics

Tuesday, 3 December 2024 09:45 (45 minutes)

Presenter: DUNNE, Gerald (U. Connecticut)

Session Classification: session

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

Quantum Applications to Machine Learning, Simulation and Sensing Experiments at UTokyo ICEPP

Wednesday, 4 December 2024 09:00 (45 minutes)

Presenter: TERASHI, Koji (ICEPP, U. Tokyo)

Session Classification: session

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

Lattice QED in 2D: computing the static potential with trapped-ion devices

Tuesday, 3 December 2024 16:00 (45 minutes)

Presenter: RINALDI, Enrico (Quantinuum/RIKEN)

Session Classification: session

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

Gauged gaussian PEPS - studying Hamiltonian LGTs in more than 1+1d using tensor networks and Monte-Carlo

Tuesday, 3 December 2024 16:45 (45 minutes)

Presenter:　ZOHAR, Erez (Hebrew U.)

Session Classification:　session

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

Quantum computational science for quantum many-body systems in condensed matter physics

Wednesday, 4 December 2024 14:00 (45 minutes)

Presenter: YUNOKI, Seiji (RIKEN)

Session Classification: session

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

Dark matter searches using superconducting qubits

Wednesday, 4 December 2024 09:45 (45 minutes)

Presenter: CHEN, Shion (Kyoto U.)

Session Classification: session

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

closing

Wednesday, 4 December 2024 15:30 (10 minutes)

Session Classification: session

Contribution ID: **18**

Type: **not specified**

Semiclassical methods for CFT data: scaling dimension of heavy operators

Tuesday, 3 December 2024 11:30 (20 minutes)

Presenter: BERSINI, Jahmall Matteo (Kavli IPMU)

Session Classification: session

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

Monte Carlo studies of quantum time-evolution based on the real-time path integral

Monday, 2 December 2024 16:20 (20 minutes)

Presenter: NISHIMURA, Jun (KEK)

Session Classification: session

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

Calculating mass spectrum of composite states in the Hamiltonian formalism

Monday, 2 December 2024 16:00 (20 minutes)

Presenter: ITOU, Etsuko (YITP, Kyoto U.)

Session Classification: session

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

Axion-Like Particle Search in Birefringent Cavity

Monday, 2 December 2024 17:00 (20 minutes)

Presenter: SHIKANO, Yutaka (University of Tsukuba)

Session Classification: session

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

Quantum algorithm for statistical quantities in Burgers turbulence

Wednesday, 4 December 2024 11:20 (20 minutes)

Presenter: UCHIDA, Fumio (KEK)

Session Classification: session

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

Imaginary Hamiltonian variational ansatz for QED and combinatorial optimization problems

Wednesday, 4 December 2024 11:00 (20 minutes)

Presenter: WANG, Xiaoyang (RIKEN iTHEMS)

Session Classification: session

Contribution ID: **24**

Type: **not specified**

Parity Violation on Bell Tests and the Potential New Paradigm Beyond Quantum Field Theory

Wednesday, 4 December 2024 11:40 (20 minutes)

Presenter: DU, Yong (TD Lee Institute, Shanghai Jiao Tong University)

Session Classification: session

Contribution ID: **25**

Type: **not specified**

Improved quantum algorithm for calculating eigenvalues of differential operators and its application to estimating the decay rate of the perturbation distribution tail in stochastic inflation

Tuesday, 3 December 2024 11:50 (20 minutes)

Presenter: MIYAMOTO, Koichi (Osaka University)

Session Classification: session

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

Quantum simulation of chiral phase transition in SU(2) model

Monday, 2 December 2024 16:40 (20 minutes)

Presenter: GUO, Xingyu (South China Normal University)

Session Classification: session

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

opening

Monday, 2 December 2024 10:05 (10 minutes)

Presenter: ASAI, Shoji (KEK, director)

Session Classification: session