

Lattice 2024

Monday, 29 July 2024

Algorithms and artificial intelligence: LT2 (11:15 - 12:55)

-Conveners: Scott Lawrence

time	[id] title	presenter
11:15	[118] Machine Learning Estimation on the trace of inverse Dirac operator using the Gradient Boosting Decision Tree Regression	CHOI, Benjamin J.
11:35	[165] Applying the Triad network representation to four-dimensional ATRG method	SUGIMOTO, Yuto
11:55	[78] Gauge symmetric transformer for lattice gauge theory	Prof. TOMIYA, Akio
12:15	[207] Exploring Generative Networks for Manifolds with Non-Trivial Topology	CHEN, Shiyang
12:35	[142] Improvement of Heatbath Algorithm in Lattice Field Theory using Generative AI	SINGHA, Ankur

Algorithms and artificial intelligence: LT2 (14:15 - 16:15)

-Conveners: Antonio Rago

time	[id] title	presenter
14:15	[370] Kernels and integration cycles in complex Langevin simulations	MANDL, Michael
14:35	[41] Designing weight regularizations based on Lefschetz thimbles to stabilize complex Langevin	HOTZY, Paul
14:55	[146] Diffusion models and stochastic quantisation in lattice field theory	AARTS, Gert
15:15	[176] Diffusion models learn distributions generated by complex Langevin dynamics	HABIBI, Diaa Eddin
15:35	[113] Sparse modeling study to extract spectral functions from lattice QCD data	TAKAHASHI, Junichi

Tuesday, 30 July 2024

Algorithms and artificial intelligence: LT2 (13:45 - 15:45)

-Conveners: Akio Tomiya

time	[id] title	presenter
13:45	[333] Using Machine Learning based Unfolding to reduce error on lattice QCD observables	SINGH, Simran
14:05	[310] Control variates with neural networks	OH, Hyunwoo
14:25	[31] Parton Distribution Functions in the Schwinger Model with Tensor Networks	SCHNEIDER, Manuel
14:45	[67] Toward tensor renormalization group study of lattice QCD	YOSPRAKOB, Atis
15:05	[217] Initial tensor construction and dependence for tensor renormalization group	NAKAYAMA, Katsumasa
15:25	[292] Machine Learning Enhanced Optimization of Variational Quantum Eigensolvers	Dr NICOLI, Kim A.

Algorithms and artificial intelligence: LT2 (16:15 - 17:15)

-Conveners: Walter Wilcox

time	[id] title	presenter
16:15	[128] Effects of FTHMC with 2+1 Domain Wall Fermions on Autocorrelation Times via Master-Field Technique	YAMAMOTO, Shuhei
16:35	[63] Minimal Autocorrelation in HMC simulations using Exact Fourier Acceleration	OSTMEYER, Johann
16:55	[129] A new method for calculating false vacuum decay rates on the lattice	SWAIM, Joshua

Wednesday, 31 July 2024

Algorithms and artificial intelligence: LT2 (11:15 - 12:55)

-Conveners: Gurtej Kanwar

time	[id] title	presenter
11:15	[104] Random Matrix Theory for Stochastic Gradient Descent	PARK, Chanju
11:35	[452] Progress in normalizing flows for 4d gauge theories	ABBOTT, Ryan
11:55	[55] Stochastic Normalizing Flows for Effective String Theory.	CELLINI, Elia
12:15	[177] Sampling SU(3) pure gauge theory with Stochastic Normalizing Flows	NADA, Alessandro
12:35	[307] Normalizing flows for SU(\$n\$) gauge theories employing singular value decomposition	JAVAD, Komijani

Thursday, 1 August 2024

Algorithms and artificial intelligence: LT2 (09:00 - 11:00)

-Conveners: Gert Aarts

time	[id] title	presenter
09:00	[36] Hessian-free force-gradient integrators and their application to lattice QCD simulations	SCHÄFERS, Kevin
09:20	[376] Parallel Tempered Metadynamics	EICHHORN, Timo
09:40	[342] Accelerating Metadynamics to overcome action barriers in 4D-SU(3) gauge theory with an eye on full QCD	FUWA, Gianluca
10:00	[320] Automated tuning for HMC mass ratios	OSBORN, James
10:20	[386] Multilevel algorithm for glueball calculations	BARCA, Lorenzo
10:40	[239] Improving HISQ quark solves using deflation	HOSTETLER, Leon

Algorithms and artificial intelligence: LT2 (11:30 - 12:30)

-Conveners: Andreas Athenodorou

time	[id] title	presenter
11:30	[393] Studies of Gauge-fixed Fourier acceleration for SU(3) gauge theory	CHRIST, Norman
11:50	[375] Chiral rank- k truncations for the multigrid preconditioner of Wilson fermions	WHYTE, Travis
12:10	[328] Digitised Hamiltonian SU(2) Gauge Theories at Weak Couplings	JAKOBS, Timo

Friday, 2 August 2024

Algorithms and artificial intelligence: LT2 (11:15 - 12:55)

-Conveners: Lorenz von Smekal

time	[id] title	presenter
11:15	[279] Nested Sampling for U(1) in 2+1 dimensions	ROMITI, Simone
11:35	[323] Unfreezing topology with nested sampling	WENGER, Urs
11:55	[304] Studying the SU(3) confinement transition with nested sampling	KANWAR, Gurtej
12:15	[189] Density of observables from local derivatives	LARSEN, Rasmus
12:35	[336] Real-time dynamics from convex geometry	LAWRENCE, Scott

Algorithms and artificial intelligence: LT2 (14:15 - 15:55)

-Conveners: James Osborn

time	[id] title	presenter
14:15	[228] Generalized HMC using Nambu mechanics	LUNDSTRUM, Erik
14:35	[233] Tuning the Riemannian Manifold Hybrid Monte Carlo with Fermions	FIELDS, Sarah
14:55	[420] On the geometric convergence of HMC on Riemannian manifolds	YU, Xinhao
15:15	[441] Worldvolume Hybrid Monte Carlo algorithm for group manifolds	Prof. FUKUMA, Masafumi
15:35	[321] Applying the Worldvolume Hybrid Monte Carlo method to the (1+2)-dim Hubbard model	NAMEKAWA, Yusuke