Conference on Computing in High Energy and Nuclear Physics

Monday 21 October 2024

Parallel (Track 5): Analysis Tools - Large Hall B (13:30 - 15:18)

-Conveners: Jonas Rembser; Giacomo De Pietro

time	[id] title	presenter
13:30	[312] ROOT RNTuple implementation in Julia programming language	LING, Jerry □
13:48	[380] Fair Universe HiggsML Uncertainty Challenge	ZHANG, Yulei
14:06	[47] On Demand Column Joining for End User Analysis	MANGANELLI, Nick
14:24	[393] Declarative paradigms for data analysis description and implementation	MASTRANDREA, Paolo
14:42	[94] Building a Columnar Analysis Demonstrator for ATLAS PHYSLITE Open Data using the Python Ecosystem	FEICKERT, Matthew
15:00	[277] Storage of nuclear waste suitable for non-invasive monitoring using muon scattering tomography	Dr BHATTACHARYA, Purba

Parallel (Track 5): Full Simulation - Large Hall A (13:30 - 15:18)

-Conveners: Marilena Bandieramonte; Tobias Stockmanns

time	[id] title	presenter
13:30	[266] NeuroMCT: Fast Monte Carlo Tuning with Generative Machine Learning in the JUNO Experiment	GAVRIKOV, Arsenii
13:48	[81] Optimizing the ATLAS Geant4 detector simulation	MORGAN, Benjamin
14:06	[370] R&D Adoption and Progress in Full Simulation of the CMS experiment	Dr SRIMANOBHAS, Phat
14:24	[397] Simulation Comparison for the mSTS Geometry based on Primitive ROOT/TGeo Solids and Tessellated Solids	Mr SHIROYA, Mehulkumar
14:42	[521] Parallel Photon Simulation for IceCube In C++	MEAGHER, Kevin

Parallel (Track 5): Accelerated Simulation - Large Hall A (16:15 - 18:03)

-Conveners: Tobias Stockmanns; Marilena Bandieramonte; Jonas Rembser; Giacomo De Pietro

time	[id] title	presenter
16:15	[76] Advancements in the ATLAS Fast Chain for HL-LHC: Towards Efficient MC Production	TSAI, Fang-Ying
16:33	[199] Generative machine learning for fast silicon detector simulation	NOVAK, Tadej
16:51	[508] Accelerating detector simulations with Celeritas: performance improvements and new capabilities	JOHNSON, Seth
17:09	[226] AdePT - Enabling GPU electromagnetic transport with Geant4	GONZALEZ CAMINERO, Juan
17:27	[390] GPU-friendly surface model for Monte-Carlo detector simulations	DIEDERICHS, Severin
17:45	[239] Opticks : GPU ray trace accelerated optical photon simulation	BLYTH, simon

Tuesday 22 October 2024

Parallel (Track 5): Analysis with ML - Large Hall A (13:30 - 15:18)

-Conveners: Marilena Bandieramonte; Tobias Stockmanns; Giacomo De Pietro; Jonas Rembser

time	[id] title	presenter
13:30	[46] Graph-based Full Event Interpretation: a graph neural network for event reconstruction in Belle II	SANTOS, Corentin
13:48	[295] Reconstruction of Full Decays using Transformers and Hyperbolic Embedding at Belle II	YU, Boyang
14:06	[504] Efficient Tracking Algorithm Evaluations through Multi-Level Reduced Simulations	ODYURT, Uraz
14:24	[293] ML-based classification of photons and neutral mesons for direct photon measurement in ALICE	NATH, Abhishek
14:42	[78] Towards Machine-Learning Particle Flow with the ATLAS Detector at the LHC	CLISSA, Luca
15:00	[29] Transfer learning for Smart Background Simulation at Belle II	HARTMANN, Nikolai

Parallel (Track 5): Fast Simulation - Large Hall A (16:15 - 18:03)

-Conveners: Tobias Stockmanns; Jonas Rembser; Marilena Bandieramonte; Giacomo De Pietro

time	[id] title	presenter
16:15	[85] AtlFast3: Fast Simulation in ATLAS for LHC Run 3 and beyond	CORCHIA, Federico Andrea
16:33	[119] Simulating the CMS High Granularity Calorimeter with ML	PEDRO, Kevin
16:51	[525] Numerical studies of space charge effect on particle tracking in a small TPC	Mr DAS, Pralay Kumar
17:09	[474] Generative AI for fast simulations in LHCb	MAZUREK, Michał
17:27	[278] End-to-end event simulation with Flow Matching and generator Oversampling	CATTAFESTA, Filippo
17:45	[488] Ultra-Fast Geometry-Independent Highly-Granular Calorimeter Simulation with Diffusion Point Clouds	KOROL, Anatolii

Wednesday 23 October 2024

Parallel (Track 5): Event Generation - Large Hall B (13:30 - 15:18)

-Conveners: Marilena Bandieramonte; Giacomo De Pietro

time	[id] title	presenter
13:30	[50] Monte Carlo challenges for Non Perturbative QED	Dr HARTIN, Anthony
13:48	[128] Madgraph on GPUs and vector CPUs: towards production	VALASSI, Andrea
14:06	[41] Hardware acceleration for next-to-leading order event generation within MadGraph5_aMC@NLO	WETTERSTEN, Zenny Jovi Joestar
14:24	[517] Event generation with quantum computers through particle-oriented simulation	IIYAMA, Yutaro
14:42	[551] Monte Carlo efficiency via negative weight reduction in Herwig	WHITEHEAD, James
15:00	[548] Navigating Phase Space for Event Generation – interfacing Sherpa with BAT.jl	LA CAGNINA, Salvatore

Parallel (Track 5): Software Libraries - Large Hall A (13:30 - 15:18)

-Conveners: Jonas Rembser; Tobias Stockmanns

time	[id] title	presenter
13:30	[356] Benchmark Studies of ML Inference with TMVA SOFIE	MONETA, Lorenzo
13:48	[320] Advancements in Computing and Simulation Techniques for the HIBEAM-NNBAR Experiment	MEIROSE, Bernhard
14:06	[243] Zero-overhead training of machine learning models with ROOT data	Dr PADULANO, Vincenzo Eduardo
14:24	[113] On-the-fly data set joins and concatenations with ROOT RNTuple	DE GEUS, Florine
14:42	[313] GIL-free scaling of Uproot in Python 3.13	PIVARSKI, Jim
15:00	[82] Using and Visualizing Graphs and Graph Algorithms	HRIVNAC, Julius

Parallel (Track 5): Fitting - Large Hall A (16:15 - 18:03)

-Conveners: Marilena Bandieramonte; Giacomo De Pietro; Jonas Rembser; Tobias Stockmanns

time	[id] title	presenter
16:15	[490] zfit: general likelihood model fitting in Python	KROMMYDAS, Iason
16:33	[36] Model Building with Non-Parametric and Parametric Components for Partial Wave Analysis	NG, Lawrence
16:51	[550] New RooFit PyROOT interfaces for connections with Machine Learning	REMBSER, Jonas
17:09	[451] BAT.jl, the Bayesian Analysis Toolkit in Julia	SCHULZ, Oliver
17:27	[109] Parameter Estimation in ATLAS with Neural Simulation-Based Inference	GHOSH, Aishik
17:45	[405] Novel Fitting Approach Based on a Neural Network for JUNO	Dr MALYSHKIN, Yury

Thursday 24 October 2024

Parallel (Track 5): Frameworks - Large Hall A (13:30 - 15:18)

-Conveners: Marilena Bandieramonte; Tobias Stockmanns; Giacomo De Pietro; Jonas Rembser

time	[id] title	presenter
13:30	[84] Towards an experiment-independent toolkit for fast calorimeter simulation	BEIRER, Joshua Falco
13:48	[472] Recent developments in the Gaussino simulation software	MORRIS, Adam
14:06	[482] Development of the platform for simulation of spatial distribution for therapeutic dose in Dose-3D phantom	HAJDUGA, Jakub
14:24	[111] The Multi-Threaded Detector Simulation in JUNO	YU, Peidong
14:42	[285] EDM4hep - The common event data model for the Key4hep project	MADLENER, Thomas
15:00	[259] Updating the software description of the ATLAS Detector	BIANCHI, Riccardo Maria

Parallel (Track 5): Quantum+ - Large Hall A (16:15 - 18:03)

-Conveners: Jonas Rembser; Giacomo De Pietro; Marilena Bandieramonte; Tobias Stockmanns

time	[id] title	presenter
16:15	[386] GlitchFlow, a Digital Twin for transient noise in Gravitational Wave Interferometers	LEGGER, Federica
16:33	[3] HPCNeuroNet: A Neuromorphic Approach Merging SNN Temporal Dynamics with Transformer Attention for FPGA-based Particle Physics	Dr DIKMEN, I. Can Mr ISIK, Murat
16:51	[87] Quantum error mitigation for Fourier moments computation	KISS, Oriel Orphee Moira
17:09	[98] Jet reconstruction with quantum-annealing-inspired algorithms	OKAWA, Hideki
17:27	[4] Jet Discrimination with Quantum Complete Graph Neural Network	CHEN, Yi-An
17:45	[351] Taking derivatives of Geant4 - closer than you might think?	LANGE, David LANGE, David