ACAT 2021

Monday 29 November 2021

Track 3: Computations in Theoretical Physics: Techniques and Methods - S305 (17:20 - 19:40)

   -**Conveners: Daniel Maitre; Stefano Carrazza**

time	[id] title	presenter
17:20	[555] Algorithms and Sampling for Amplitude Level Evolution	PLATZER, Simon
17:40	[559] A factorisation-aware Matrix element emulator	TRUONG, Henry
18:00	[574] tapir: A multi-loop tool for Feynman diagram reduction and manipulation	GERLACH, Marvin
18:20	[673] Computational algebraic geometry, p-adic numbers and fast linear algebra for scattering amplitude ansätze	Dr DE LAURENTIS, Giuseppe
18:40	[615] REvolver: Automated running and matching of couplings and masses in QCD	Dr MATEU BARREDA, Vicent
19:00	[759] Expansion by regions & Monte Carlo integration with pySecDec	MAHERIA, Vitalii
19:20	[651] Monte Carlo challenges for Non Perturbative QED	Dr HARTIN, Anthony

Tuesday 30 November 2021

Track 3: Computations in Theoretical Physics: Techniques and Methods - S305 (17:00 - 19:40)

-**Conveners: Maria Ubiali; Stephen Philip Jones**

time	[id] title	presenter
17:00	[768] MadJax - differentiable Matrix Elements with JAX	HEINRICH, Lukas Alexander KAGAN, Michael Aaron
17:20	[778] An open-source machine learning framework for global analyses of parton distributions	KASSABOV-ZAHARIEVA, Z.D.
17:40	[532] Qibo: towards a quantum computing open source OS	CARRAZZA, Stefano
18:00	[582] The static self-energy (and plaquette) at large orders in perturbation theory	PINEDA, Antonio
18:20	[560] Machine Learning Efforts in SHERPA	JANSSEN, Timo
18:40	[657] Testing the boundaries: Normalizing Flows for higher dimensional data sets.	REYES-GONZÁLEZ, Humberto

Wednesday 1 December 2021

Track 3: Computations in Theoretical Physics: Techniques and Methods - S305 (17:00 - 19:00)

   -Conveners: Myeonghun Park; Gudrun Heinrich; Andrey Pikelner

time	[id] title	presenter
17:00	[567] Optimising simulations for diphoton production at hadron colliders using amplitude neural networks	MOODIE, Ryan
17:20	[625] Two-loop QCD amplitudes for Higgs production with a bottom quark pair	KRYS, Jakub Marcin
17:40	[648] Elimination of Negative Event Weights in Monte Carlo Samples	Dr MAIER, Andreas
18:00	[699] Higher order QCD corrections and effective operators in Higgs boson pair production	LANG, Jannis
18:20	[653] Artificial Proto-Modelling: Building Precursors of a Next Standard Model from Simplified Model Results	WALTENBERGER, Wolfgang
18:40	[616] FeynCalc goes multiloop	SHTABOVENKO, Vladyslav

Thursday 2 December 2021

Track 3: Computations in Theoretical Physics: Techniques and Methods - S305 (11:00 - 13:00)

  -Conveners: Myeonghun Park; latifa Elouadrhiri

time	[id] title	presenter
11:00	[764] Mixed QCD-EW two-loop amplitudes for neutral current Drell-Yan production	Dr RANA, Narayan
11:20	[611] The Higgs plus three-gluon amplitude at one loop with pySecDec	PARANJAPE, Chaitanya
12:00	[676] New method of fast calculating lepton magnetic moments in quantum electrodynamics	VOLKOV, Sergey
12:20	[538] Development of the automatic procedures for spinor matrix element calculation with massive particles.	Mr DYDYSHKA, Yahor
12:40	[667] Numerical Regularization for 4-loop Self-Energy Feynman Diagrams	Dr DE DONCKER, Elise