

IoP 2022 - Joint APP/HEPP Conference

Report of Contributions

Contribution ID: 3

Type: **not specified**

Closing remarks and departure

Wednesday, April 6, 2022 4:05 PM (10 minutes)

Presenter: NEWBOLD, Dave (STFC)

Contribution ID: 4

Type: **not specified**

Welcome

Monday, April 4, 2022 9:45 AM (10 minutes)

Presenter: THOMSON, Mark (STFC)

Session Classification: Plenary

Contribution ID: 5

Type: **not specified**

Future Colliders

Monday, April 4, 2022 10:00 AM (25 minutes)

FCC, Muon collider

Presenter: LAMONT, Mike

Session Classification: Plenary

Contribution ID: 6

Type: **not specified**

High Intensity Muon Beam Physics

Monday, April 4, 2022 10:30 AM (25 minutes)

Presenter: LANCASTER, Mark

Session Classification: Plenary

Contribution ID: 7

Type: **not specified**

SM and Higgs at LHC

Monday, April 4, 2022 11:45 AM (25 minutes)

Presenter: BUCKLEY, Andy

Session Classification: Plenary

Contribution ID: 8

Type: **not specified**

Quark Flavour Physics

Monday, April 4, 2022 12:15 PM (25 minutes)

Presenter: RADEMACKER, Jonas

Session Classification: Plenary

Contribution ID: 9

Type: **not specified**

Direct searches for dark matter

Monday, April 4, 2022 11:15 AM (25 minutes)

Presenter: PALLADINO, Kimberly

Session Classification: Plenary

Contribution ID: **10**

Type: **not specified**

HEPP Prize 2021 Talk

Searches for new physics in measurements of top quark production in association with W/Z/Higgs bosons

Presenter: MCFAYDEN, Josh

Session Classification: Plenary

Contribution ID: 11

Type: **not specified**

Gamma Ray Astronomy

Monday, April 4, 2022 4:45 PM (25 minutes)

Presenter: STARLING, Rhaana

Session Classification: Plenary

Contribution ID: 12

Type: **not specified**

Boulby Underground Laboratory: Status and plans for the UK's deep underground science facility

Wednesday, April 6, 2022 3:30 PM (25 minutes)

Presenter: PALING, Sean

Session Classification: Plenary

Contribution ID: 13

Type: **not specified**

The UK's Net Zero strategy

Monday, April 4, 2022 5:45 PM (25 minutes)

Presenters: NURSE, Emily; NURSE, Emily

Session Classification: Plenary

Contribution ID: 14

Type: **not specified**

Gravitational Wave results from LIGO and Virgo

Tuesday, April 5, 2022 9:00 AM (25 minutes)

Presenter: RAYMOND, Vivien

Session Classification: Plenary

Contribution ID: 15

Type: **not specified**

Developments in formal theory

Tuesday, April 5, 2022 9:30 AM (25 minutes)

Presenter: WHITE, Chris

Session Classification: Plenary

Contribution ID: 16

Type: **not specified**

MicroBooNE results and short baseline neutrino experiment summary

Tuesday, April 5, 2022 10:00 AM (25 minutes)

Presenter: UCHIDA, Melissa

Session Classification: Plenary

Contribution ID: 17

Type: **not specified**

Neutrino Oscillations Experiments

Tuesday, April 5, 2022 1:30 PM (25 minutes)

Presenter: SOLDNER-REMBOLD, Stefan

Session Classification: Plenary

Contribution ID: **18**

Type: **not specified**

LHC upgrades

Monday, April 4, 2022 4:15 PM (25 minutes)

Presenter: PARAMESVARAN, Sudan

Session Classification: Plenary

Contribution ID: 19

Type: **not specified**

European R&D Roadmaps

Monday, April 4, 2022 5:15 PM (25 minutes)

Presenter: VIVARELLI, Iacopo (University Of Sussex)

Session Classification: Plenary

Contribution ID: 20

Type: **not specified**

Executive Chair Report

Tuesday, April 5, 2022 3:10 PM (50 minutes)

Presenter: THOMSON, Mark (STFC)

Session Classification: Town Meeting

Contribution ID: 21

Type: **not specified**

Science Board Update

Tuesday, April 5, 2022 4:00 PM (15 minutes)

Presenter: SHEARS, Tara

Session Classification: Town Meeting

Contribution ID: 22

Type: **not specified**

PPGP(E) Update

Tuesday, April 5, 2022 4:15 PM (30 minutes)

Presenter: O'KEEFFE, Helen

Session Classification: Town Meeting

Contribution ID: 23

Type: **not specified**

Advisory Panel Report - PPTAP and European Roadmapping (LDG/ECFA)

Tuesday, April 5, 2022 4:55 PM (15 minutes)

Presenter: CHADWICK, Paula (Durham University)

Session Classification: Town Meeting

Contribution ID: 24

Type: **not specified**

Advisory Panel Report - PAAP

Tuesday, April 5, 2022 5:10 PM (15 minutes)

Presenter: MCCABE, Christopher

Session Classification: Town Meeting

Contribution ID: 25

Type: **not specified**

Advisory Panel Report - PPAP

Tuesday, April 5, 2022 5:25 PM (15 minutes)

Presenter: NEEDHAM, Matthew

Session Classification: Town Meeting

Contribution ID: 26

Type: **not specified**

Q&A

Tuesday, April 5, 2022 5:40 PM (10 minutes)

Session Classification: Town Meeting

Contribution ID: 27

Type: **not specified**

BSM and dark sector across the board (Theory)

Wednesday, April 6, 2022 9:00 AM (25 minutes)

Presenter: MCCULLOUGH, Matthew

Session Classification: Plenary

Contribution ID: 28

Type: **not specified**

BSM and dark sector at colliders (Experiment)

Wednesday, April 6, 2022 9:30 AM (25 minutes)

Presenter: ROMPOTIS, Nikolaos

Session Classification: Plenary

Contribution ID: 29

Type: **not specified**

HEPP Prize 2020 Talk

Wednesday, April 6, 2022 10:00 AM (25 minutes)

Searches for New Physics in rare B decays

Presenter: ALVAREZ CARTELLE, Paula

Session Classification: Plenary

Contribution ID: 30

Type: **not specified**

Toward the discovery of matter creation with neutrinoless double-beta decay

Wednesday, April 6, 2022 3:00 PM (25 minutes)

Presenter: AGOSTINI, Matteo

Session Classification: Plenary

Contribution ID: 31

Type: **not specified**

Quantum sensor technology

Tuesday, April 5, 2022 2:30 PM (25 minutes)

Presenter: BONGS, Kai

Session Classification: Plenary

Contribution ID: 32

Type: **not specified**

APP Prize 2021: The Structure of Relativistic Jets from Neutron Star Mergers

Tuesday, April 5, 2022 2:00 PM (25 minutes)

Presenter: LAMB, Gavin

Session Classification: Plenary

Contribution ID: 313

Type: **not specified**

Searches for long-lived particles with a disappearing track signature at $\sqrt{s} = 13$ TeV in the ATLAS experiment

Monday, April 4, 2022 2:00 PM (12 minutes)

Presenter: SMITH, James (University of Liverpool)

Session Classification: Parallel Talks

Contribution ID: 314

Type: **not specified**

Search for heavy resonances decaying into a Z boson and a Higgs boson in final states with leptons and b-jets with the ATLAS detector at the LHC

Monday, April 4, 2022 2:15 PM (12 minutes)

Presenter: QIU, Tong (QMUL)

Session Classification: Parallel Talks

Contribution ID: 315

Type: **not specified**

Search for invisibly decaying Higgs bosons in $t\bar{t}H$ and VH channels in hadronic final states using full Run 2 data collected by the CMS detector

Monday, April 4, 2022 2:30 PM (12 minutes)

Presenter: WHITE, Robert (University of Bristol)

Session Classification: Parallel Talks

Contribution ID: 316

Type: **not specified**

Search for signatures of physics beyond the standard model (SM) in the di-tau final states using data collected at the CMS experiment from Run-2 at the LHC

Monday, April 4, 2022 2:45 PM (12 minutes)

Presenter: UTTLEY, George (Imperial College London)

Session Classification: Parallel Talks

Contribution ID: 317

Type: **not specified**

Searching for Beyond the Standard Model Physics using Tau Leptons

Monday, April 4, 2022 3:00 PM (12 minutes)

Presenter: NORFOLK, Mitchell (The University of Sheffield, PhD Student)

Session Classification: Parallel Talks

Contribution ID: **318**

Type: **not specified**

Exploring Multilepton Signatures from Dark Matter at the LHC

Monday, April 4, 2022 3:15 PM (12 minutes)

Presenter: FREEGARD, Arran (University of Southampton + [Queen Mary University of London](#))

Session Classification: Parallel Talks

Contribution ID: 319

Type: **not specified**

Decoding Dark Matter at future $e + e -$ colliders

Monday, April 4, 2022 3:30 PM (12 minutes)

Presenter: BELYAEV, Alexander (University of Southampton)

Session Classification: Parallel Talks

Contribution ID: **320**

Type: **not specified**

W-boson and its polarisation at NNLO

Tuesday, April 5, 2022 11:00 AM (12 minutes)

Presenter: POPESCU, Andrei (University of Cambridge)

Session Classification: Parallel Talks

Contribution ID: 321

Type: **not specified**

Differential cross-section measurement for the electroweak production of W-gamma-jj at the ATLAS detector

Tuesday, April 5, 2022 11:15 AM (12 minutes)

Presenter: HONAN, Benjamin (ATLAS (University of Manchester))

Session Classification: Parallel Talks

Contribution ID: 322

Type: **not specified**

Probing the Standard Model with Rare Electroweak Multiboson Interactions

Tuesday, April 5, 2022 11:30 AM (12 minutes)

Presenter: COOKE, Harry (University of Birmingham)

Session Classification: Parallel Talks

Contribution ID: 323

Type: **not specified**

Search for exclusive hadronic W boson decays with the ATLAS experiment

Tuesday, April 5, 2022 11:45 AM (12 minutes)

Presenter: SILVA, Júlia (University of Birmingham)

Session Classification: Parallel Talks

Contribution ID: 324

Type: **not specified**

Optimization of the Bs/Bd separation power in the ATLAS B- \rightarrow mumu branching ratio measurement

Tuesday, April 5, 2022 12:00 PM (12 minutes)

Presenter: KOVANDA, Ondrej (University of Sussex)

Session Classification: Parallel Talks

Contribution ID: 325

Type: **not specified**

A method for searching for parity violating physics at the LHC.

Tuesday, April 5, 2022 12:15 PM (12 minutes)

Presenter: NOEL, Daniel (University of Cambridge)

Session Classification: Parallel Talks

Contribution ID: 326

Type: **not specified**

Level-1 Track Finder for the CMS Upgrade for HL-LHC

Wednesday, April 6, 2022 11:00 AM (12 minutes)

Presenter: HOLMBERG, Mei-Li (University of Bristol, Rutherford Appleton Laboratory)

Session Classification: Parallel Talks

Contribution ID: 327

Type: **not specified**

Neural Network-Based Primary Vertex Reconstruction with FPGAs for the Upgrade of the CMS Level-1 Trigger System

Wednesday, April 6, 2022 11:15 AM (12 minutes)

Presenter: BROWN, Christopher (Imperial College London)

Session Classification: Parallel Talks

Contribution ID: 328

Type: **not specified**

Performance and Upgrade of the CMS Electromagnetic Calorimeter

Wednesday, April 6, 2022 11:30 AM (12 minutes)

Presenter: COOKE, Charlotte (University of Bristol and Rutherford Appleton Laboratory)

Session Classification: Parallel Talks

Contribution ID: 329

Type: **not specified**

Commissioning of L1Calo phase I upgrade at ATLAS: development and testing of eFEX and FTM modules

Wednesday, April 6, 2022 11:45 AM (12 minutes)

Presenter: BIRD, Gareth (RAL PPD/University of Birmingham)

Session Classification: Parallel Talks

Contribution ID: 330

Type: **not specified**

Improving the performance of dealing with non-ideal tracks within ATLAS reconstruction.

Wednesday, April 6, 2022 12:00 PM (12 minutes)

Presenter: MCLAUGHLIN, Donal (University College London)

Session Classification: Parallel Talks

Contribution ID: 331

Type: **not specified**

Machine Learning based predictor for measurement-to-track association for the ATLAS Inner Detector Trigger

Wednesday, April 6, 2022 12:15 PM (12 minutes)

Presenter: LAD, Nisha (University College London)

Session Classification: Parallel Talks

Contribution ID: 332

Type: **not specified**

Measurements of the differential production cross sections of a top quark pair in association with a Z boson with the ATLAS detector.

Wednesday, April 6, 2022 1:30 PM (12 minutes)

Presenter: MINCE, Laurynas (University of Glasgow)

Session Classification: Parallel Talks

Contribution ID: 333

Type: **not specified**

Boosting the Higgs with $t\bar{t}H(bb)$, using the ATLAS detector

Wednesday, April 6, 2022 1:45 PM (12 minutes)

Presenter: BORBELY, Albert (University of Glasgow)

Session Classification: Parallel Talks

Contribution ID: 334

Type: **not specified**

Search for Four Top Quark Production at CMS

Wednesday, April 6, 2022 2:00 PM (12 minutes)

Presenter: STYLIANOU, Nicolas (CMS (University of Bristol))

Session Classification: Parallel Talks

Contribution ID: 335

Type: **not specified**

Measurement of Jet Substructure Observables in Boosted $t\bar{t}$ Events at 13~TeV Using the ATLAS Detector at the LHC

Wednesday, April 6, 2022 2:15 PM (12 minutes)

Presenter: RENNIE, Adam (University of Glasgow)

Session Classification: Parallel Talks

Contribution ID: 336

Type: **not specified**

Model agnostic measurement of $B^0 \rightarrow D^{*-} \tau^+ \nu_\tau$ angular coefficients using three-prong hadronic τ decays

Monday, April 4, 2022 1:46 PM (12 minutes)

Presenter: SCANTLEBURY-SMEAD, Luke (University of Oxford)

Session Classification: Parallel Talks

Contribution ID: 337

Type: **not specified**

Searching for New Physics through the decay $B \rightarrow K^* 0 \mu^+ \mu^-$ at LHCb

Monday, April 4, 2022 2:00 PM (12 minutes)

Presenter: BIRCH, Matthew (Imperial College London)

Session Classification: Parallel Talks

Contribution ID: 338

Type: **not specified**

Model Independent Measurement of CKM Gamma using $B \rightarrow D^0 K$, $D^0 \rightarrow 2\pi^+ 2\pi^-$ Decays.

Monday, April 4, 2022 2:15 PM (12 minutes)

Presenter: WESTHENRY, Benedict (University of Bristol)

Session Classification: Parallel Talks

Contribution ID: 339

Type: **not specified**

Status of searches for rare or forbidden charm decays of the form $D_{(s)}^+ \rightarrow h^\pm \ell^+ \ell'^\mp$

Monday, April 4, 2022 2:30 PM (12 minutes)

Presenter: ALIOUCHE, Zakariya (The University of Manchester)

Session Classification: Parallel Talks

Contribution ID: 340

Type: **not specified**

A Quasi model independent method to measure the relative strong phase in quantum correlated $D \rightarrow K_S \pi^+ \pi^-$ decays and an use in CKM measurements in $B^\pm \rightarrow D h^\pm$ decays.

Monday, April 4, 2022 2:45 PM (12 minutes)

Presenter: LANE, Jake (University of Manchester)

Session Classification: Parallel Talks

Contribution ID: 341

Type: **not specified**

Study of Ξ_b^- and Ω_b^- decays to the $\Lambda_c^+ h^- h'^-$ final state

Monday, April 4, 2022 3:00 PM (12 minutes)

Presenter: PAGARE, Bhagyashree (University of Warwick (UK))

Session Classification: Parallel Talks

Contribution ID: 342

Type: **not specified**

VELO Module Construction for the LHCb detector upgrade for Run3

Monday, April 4, 2022 3:15 PM (12 minutes)

Presenter: ZUNICA, Gianluca (The University of Manchester)

Session Classification: Parallel Talks

Contribution ID: 343

Type: **not specified**

Simulation of Low Gain Avalanche Detectors(LGAD) for LHCb operation in Run IV

Monday, April 4, 2022 3:30 PM (12 minutes)

Presenter: FRIDAY, David (University of Glasgow)

Session Classification: Parallel Talks

Contribution ID: 344

Type: **not specified**

Colliding light, tau g-2, and axion detectors

Tuesday, April 5, 2022 11:00 AM (12 minutes)

Presenter: LIU, Jesse (University of Cambridge)

Session Classification: Parallel Talks

Contribution ID: 345

Type: **not specified**

Towards an Algebraic Theory of Spin

Tuesday, April 5, 2022 11:15 AM (12 minutes)

Presenter: BRADSHAW, Peter (University College London)

Session Classification: Parallel Talks

Contribution ID: 346

Type: **not specified**

MSHT20 Approximate N3LO Parton Distribution Functions with Theoretical Uncertainties

Tuesday, April 5, 2022 11:30 AM (12 minutes)

Presenter: MCGOWAN, Jamie (University College London)

Session Classification: Parallel Talks

Contribution ID: 347

Type: **not specified**

Quarkonia showers in PYTHIA8

Tuesday, April 5, 2022 11:45 AM (12 minutes)

Presenter: COOKE, Naomi (University of Birmingham)

Session Classification: Parallel Talks

Contribution ID: 348

Type: **not specified**

Quantum computing approaches for simulating parton showers in high energy collisions

Tuesday, April 5, 2022 12:00 PM (12 minutes)

Presenter: WILLIAMS, Simon (Imperial College London)

Session Classification: Parallel Talks

Contribution ID: 349

Type: **not specified**

Graph neural nets for CMS particle track reconstruction

Tuesday, April 5, 2022 12:15 PM (12 minutes)

Presenter: LIV VAGE (Imperial)

Session Classification: Parallel Talks

Contribution ID: 350

Type: **not specified**

Cosmic Ray Neutron Sensors for IoT Soil Moisture Monitoring

Wednesday, April 6, 2022 11:00 AM (12 minutes)

Presenter: STOWELL, Patrick (University of Durham)

Session Classification: Parallel Talks

Contribution ID: 351

Type: **not specified**

PlomBOX - development of a low-cost CMOS device for environmental monitoring

Wednesday, April 6, 2022 11:15 AM (12 minutes)

Presenter: DIAS, Adriana (Royal Holloway, University of London)

Session Classification: Parallel Talks

Contribution ID: 352

Type: **not specified**

nFacet 3D: a novel dosimeter for effective dose measurement

Wednesday, April 6, 2022 11:30 AM (12 minutes)

Presenter: REED, Nicholas (Imperial College London)

Session Classification: Parallel Talks

Contribution ID: 353

Type: **not specified**

QuARC –A Quality Assurance Range Calorimeter for Proton Therapy

Wednesday, April 6, 2022 11:45 AM (12 minutes)

Presenter: SHAIKH, Saad (University College London)

Session Classification: Parallel Talks

Contribution ID: 354

Type: **not specified**

Investigation of plasma (Gabor) lenses for capture and focusing of laser-driven ions

Wednesday, April 6, 2022 12:00 PM (12 minutes)

Presenter: DASCALU, Titus-Stefan (Imperial College London)

Session Classification: Parallel Talks

Contribution ID: 355

Type: **not specified**

Analysis of scintillating and reflective materials for X-ray Computed Tomography

Wednesday, April 6, 2022 12:15 PM (12 minutes)

Presenter: TUCCORI, Nicolo (University of Sussex)

Session Classification: Parallel Talks

Contribution ID: 356

Type: **not specified**

Mixing and CP violation with D0 -> Kspipi at the LHCb experiment

Wednesday, April 6, 2022 1:30 PM (12 minutes)

Presenters: HILTON, Martha (University of Manchester); HILTON, Martha; HILTON, Martha

Session Classification: Parallel Talks

Contribution ID: 357

Type: **not specified**

Search for local CP violation in the phase-space of D^0 $\rightarrow \pi^-\pi^+\pi^0$ decays using the energy test with LHCb Run 2 data

Wednesday, April 6, 2022 1:45 PM (12 minutes)

Presenter: COBBLEDICK, John (University of Manchester)

Session Classification: Parallel Talks

Contribution ID: 358

Type: **not specified**

Five-dimensional phase-space efficiency in $D \rightarrow K3\pi$ at LHCb for precision CP violation measurements

Wednesday, April 6, 2022 2:00 PM (12 minutes)

Presenter: LANE, Richard (University of Bristol)

Session Classification: Parallel Talks

Contribution ID: 359

Type: **not specified**

Beauty to doubly open charm decays with the LHCb detector

Wednesday, April 6, 2022 2:15 PM (12 minutes)

Presenter: BISHOP, Fionn (University of Cambridge)

Session Classification: Parallel Talks

Contribution ID: 360

Type: **not specified**

Sensitivity of a Boulby-based antineutrino detector to nuclear reactors over 100 km away.

Monday, April 4, 2022 1:46 PM (12 minutes)

Presenter: KNEALE, Elisabeth (University of Sheffield)

Session Classification: Parallel Talks

Contribution ID: **361**

Type: **not specified**

Recent results of the SoLid experiment

Monday, April 4, 2022 2:00 PM (12 minutes)

Presenter: GALBINSKI, Daniel (Imperial College London)

Session Classification: Parallel Talks

Contribution ID: 362

Type: **not specified**

Measurement of the Λ Baryon Production Cross Section in Neutrino Interactions with MicroBooNE

Monday, April 4, 2022 2:15 PM (12 minutes)

Presenter: THORPE, Christopher (Lancaster University)

Session Classification: Parallel Talks

Contribution ID: 363

Type: **not specified**

Measurement of the inclusive electron antineutrino cross-section on argon using the MicroBooNE detector

Monday, April 4, 2022 2:30 PM (12 minutes)

Presenter: REGGIANI-GUZZO, Marina (The University of Manchester)

Session Classification: Parallel Talks

Contribution ID: 364

Type: **not specified**

Development of a search for Higgs Portal Scalars in MicroBooNE.

Monday, April 4, 2022 2:45 PM (12 minutes)

Presenter: BHANDERI, Aditya (Manchester)

Session Classification: Parallel Talks

Contribution ID: 365

Type: **not specified**

Reconstruction performance and characterisation of electromagnetic showers in the SBND detector.

Monday, April 4, 2022 3:00 PM (12 minutes)

Presenter: ZGLAM, Ala (The University of Sheffield)

Session Classification: Parallel Talks

Contribution ID: 366

Type: **not specified**

A study of neutral current pion events at Super Kamiokande

Monday, April 4, 2022 3:15 PM (12 minutes)

Presenter: MARTIN, Dan (Imperial College London)

Session Classification: Parallel Talks

Contribution ID: 367

Type: **not specified**

BOLEYN: a testbed for new neutrino detection technologies

Monday, April 4, 2022 3:30 PM (12 minutes)

Presenter: SCARFF, Andrew (University of Sheffield)

Session Classification: Parallel Talks

Contribution ID: **368**

Type: **not specified**

MAGIS & AION: long baseline atom interferometry experiments

Tuesday, April 5, 2022 11:00 AM (12 minutes)

Presenter: HAWKINS, Leonie (The University of Liverpool)

Session Classification: Parallel Talks

Contribution ID: 369

Type: **not specified**

AION and MAGIS-100: Atom Interferometry Detectors Searching for Ultralight Dark Matter and Gravitational Waves and Their Limiting Systematics

Tuesday, April 5, 2022 11:15 AM (12 minutes)

Presenter: MITCHELL, Jeremiah (University of Cambridge)

Session Classification: Parallel Talks

Contribution ID: 370

Type: **not specified**

imaging for the MAGIS and AION interferometers

Tuesday, April 5, 2022 11:30 AM (12 minutes)

Presenter: WEATHERILL, Dan (University of Oxford)

Session Classification: Parallel Talks

Contribution ID: 371

Type: **not specified**

A Phase Shear detection system for the MAGIS-100 and AION experiments

Tuesday, April 5, 2022 11:45 AM (12 minutes)

Presenter: ELERTAS, Gedminas (University of Liverpool)

Session Classification: Parallel Talks

Contribution ID: 372

Type: **not specified**

Recent Progress in Radio Detection of Axion Dark Matter

Tuesday, April 5, 2022 12:00 PM (12 minutes)

Presenter: MCDONALD, Jamie (Centre for cosmology, particle physics and phenomenology (CP3), Université Catholique de Louvain)

Session Classification: Parallel Talks

Contribution ID: 373

Type: **not specified**

The Nue/Numu Ratio within the NuMI Beam

Wednesday, April 6, 2022 11:00 AM (12 minutes)

Presenter: MOOR, Alexandra (University of Cambridge)

Session Classification: Parallel Talks

Contribution ID: 374

Type: **not specified**

Status of the Triple Differential Numu Bar CC Inclusive Cross-Section Analysis using Data Collected by the NOvA Near Detector

Wednesday, April 6, 2022 11:15 AM (12 minutes)

Presenter: SINGH, Prabhjot (Queen Mary University of London)

Session Classification: Parallel Talks

Contribution ID: 375

Type: **not specified**

Searching for an Improved NOvA 3-flavour Neutrino Oscillation Analysis Event Selection

Wednesday, April 6, 2022 11:30 AM (12 minutes)

Presenter: MIKOLA, Veera (University College London)

Session Classification: Parallel Talks

Contribution ID: 376

Type: **not specified**

Transverse Kinematic Imbalance study in ProtoDUNE-SP for the interaction proton - argon

Wednesday, April 6, 2022 11:45 AM (12 minutes)

Presenter: VERGANI, Stefano (University of Cambridge)

Session Classification: Parallel Talks

Contribution ID: 377

Type: **not specified**

Development of the Pandora LArTPC event reconstruction to optimise the sensitivity to CP violation at DUNE

Wednesday, April 6, 2022 12:00 PM (12 minutes)

Presenter: MAWBY, Isobel (University of Warwick)

Session Classification: Parallel Talks

Contribution ID: 378

Type: **not specified**

Calibration of DUNE Far Detector using cosmic-ray muons

Wednesday, April 6, 2022 12:15 PM (12 minutes)

Presenter: KUMAR, Praveen (The University of Sheffield)

Session Classification: Parallel Talks

Contribution ID: 379

Type: **not specified**

Large Area Picosecond Photodetectors for future neutrino detectors

Wednesday, April 6, 2022 1:30 PM (12 minutes)

Presenter: FOSTER, Robert (University of Sheffield)

Session Classification: Parallel Talks

Contribution ID: **380**

Type: **not specified**

A new easily scalable readout system for distributed photomultiplier detector networks

Wednesday, April 6, 2022 1:45 PM (12 minutes)

Presenter: MÁNEK, Petr (University College London)

Session Classification: Parallel Talks

Contribution ID: **381**

Type: **not specified**

Event by Event Directional Reconstruction in the SNO+ Scintillator Phase

Wednesday, April 6, 2022 2:00 PM (12 minutes)

Presenter: PATON, Josephine (University of Oxford)

Session Classification: Parallel Talks

Contribution ID: 382

Type: **not specified**

A Statistical Approach to Modelling the Optical Scattering Calibration System in SNO+

Wednesday, April 6, 2022 2:15 PM (12 minutes)

Presenter: COOKMAN, Daniel (University of Oxford)

Session Classification: Parallel Talks

Contribution ID: **383**

Type: **not specified**

The LUX-ZEPLIN (LZ) Experiment

Monday, April 4, 2022 1:46 PM (12 minutes)

Presenter: COTTLE, Amy (University of Oxford)

Session Classification: Parallel Talks

Contribution ID: **384**

Type: **not specified**

Se-Rn-dipitous Seque-LZ: Radon in LZ

Monday, April 4, 2022 2:00 PM (12 minutes)

Presenter: ANGELIDES, Nicolas (Imperial College London)

Session Classification: Parallel Talks

Contribution ID: 385

Type: **not specified**

Photon Detection in LUX-ZEPLIN (LZ) and LXe TPCs

Monday, April 4, 2022 2:15 PM (12 minutes)

Presenter: BAKER, Albert (Imperial College London)

Session Classification: Parallel Talks

Contribution ID: **386**

Type: **not specified**

Saturation corrections in the LUX-ZEPLIN experiment

Monday, April 4, 2022 2:30 PM (12 minutes)

Presenter: AL MUSALHI, Aiham (University of Oxford)

Session Classification: Parallel Talks

Contribution ID: **387**

Type: **not specified**

Preliminary projected sensitivity of LZ to Majoron-emitting double beta decay modes of ^{136}Xe

Monday, April 4, 2022 2:45 PM (12 minutes)

Presenter: TONG, Zhaozhen (Imperial College London)

Session Classification: Parallel Talks

Contribution ID: **388**

Type: **not specified**

FlameNEST

Monday, April 4, 2022 3:00 PM (12 minutes)

Presenter: PALMER, Jordan (Royal Holloway University of London)

Session Classification: Parallel Talks

Contribution ID: **389**

Type: **not specified**

Preparations for the first observation of the Migdal effect

Monday, April 4, 2022 3:15 PM (12 minutes)

Presenter: MARLEY, Timothy (STFC)

Session Classification: Parallel Talks

Contribution ID: 390

Type: **not specified**

Exploring the current and future physics potential of liquid noble direct dark matter detection experiments

Monday, April 4, 2022 3:30 PM (12 minutes)

Presenter: SANDFORD, Ellen (The University of Manchester)

Session Classification: Parallel Talks

Contribution ID: 391

Type: **not specified**

Towards efficient neutron spectroscopy with a Nitrogen-filled Spherical Proportional Counter

Tuesday, April 5, 2022 11:00 AM (12 minutes)

Presenter: MANTHOS, Ioannis (University of Birmingham)

Session Classification: Parallel Talks

Contribution ID: 392

Type: **not specified**

Reaching the neutrino floor for sub-GeV dark matter with spherical proportional counters fully electroformed underground

Tuesday, April 5, 2022 11:15 AM (12 minutes)

Presenter: KATSIOULAS, Ioannis (University of Birmingham)

Session Classification: Parallel Talks

Contribution ID: 393

Type: **not specified**

Qualification of Photo Detector Units for the DarkSide-20k experiment.

Tuesday, April 5, 2022 11:30 AM (12 minutes)

Presenter: BALMFORTH, Zoe (Royal Holloway, University of London)

Session Classification: Parallel Talks

Contribution ID: 394

Type: **not specified**

Mitigating Accidental Backgrounds in LZ using Convolution Neural Networks

Tuesday, April 5, 2022 11:45 AM (12 minutes)

Presenter: KHURANA, Ishan (.)

Session Classification: Parallel Talks

Contribution ID: 395

Type: **not specified**

A Next Generation Liquid Xenon Observatory

Tuesday, April 5, 2022 12:00 PM (12 minutes)

Presenter: OLIVER-MALLORY, Kelsey (Imperial College London)

Session Classification: Parallel Talks

Contribution ID: 396

Type: **not specified**

Sense and Sensitivity: Confronting the radiological screening challenges for next-generation rare event detectors

Tuesday, April 5, 2022 12:15 PM (12 minutes)

Presenters: LIU, XinRan (The University of Edinburgh); LIU, Xinran (The University Of Edinburgh)

Session Classification: Parallel Talks

Contribution ID: 397

Type: **not specified**

Detection and Reconstruction of High-Flux Electron Energy Spectra in the Strong-Field QED Regime with LUXE

Wednesday, April 6, 2022 11:00 AM (12 minutes)

Presenter: HALLFORD, John (University College London)

Session Classification: Parallel Talks

Contribution ID: 398

Type: **not specified**

Status of the R2D2 $0\nu\beta\beta$ Experiment

Wednesday, April 6, 2022 11:15 AM (12 minutes)

Presenter: KNIGHTS, Patrick (University of Birmingham)

Session Classification: Parallel Talks

Contribution ID: 399

Type: **not specified**

Characterisation of Germanium Detectors for LEGEND-200

Wednesday, April 6, 2022 11:30 AM (12 minutes)

Presenter: ALEXANDER, Abigail (University College London)

Session Classification: Parallel Talks

Contribution ID: **400**

Type: **not specified**

Detecting supernova neutrinos at SNO+

Wednesday, April 6, 2022 11:45 AM (12 minutes)

Presenter: VALDER, Sammy (University of Sussex)

Session Classification: Parallel Talks

Contribution ID: 401

Type: **not specified**

Supernova Discrimination with a Kiloton-scale Water Cherenkov Detector

Wednesday, April 6, 2022 12:00 PM (12 minutes)

Presenter: SCHNELLBACH, Yan-Jie (University of Liverpool)

Session Classification: Parallel Talks

Contribution ID: 402

Type: **not specified**

Probing extreme-energy universe through EeV neutrino detection with the ANITA and PUEO experiments

Wednesday, April 6, 2022 12:15 PM (12 minutes)

Presenter: XIE, Cheng (University College London)

Session Classification: Parallel Talks

Contribution ID: 403

Type: **not specified**

Measuring the anomalous precession frequency of the muon with the Muon g-2 tracking detectors

Wednesday, April 6, 2022 1:30 PM (12 minutes)

Presenter: SWEETMORE, George (University of Manchester)

Session Classification: Parallel Talks

Contribution ID: 404

Type: **not specified**

Searching for a muon EDM at the new g-2 experiment at Fermilab

Wednesday, April 6, 2022 1:45 PM (12 minutes)

Presenter: VASILKOVA, Dominika (University College London)

Session Classification: Parallel Talks

Contribution ID: 405

Type: **not specified**

Physics Validations of Simulations for the COMET Low-Energy, Neutrinoless μ -e Conversion Experiment

Wednesday, April 6, 2022 2:00 PM (12 minutes)

Presenter: DERVENI, Roden (Imperial College London)

Session Classification: Parallel Talks

Contribution ID: 406

Type: **not specified**

Track pileup mitigation using a one-dimensional maximum likelihood fit for the Mu3e experiment

Wednesday, April 6, 2022 2:15 PM (12 minutes)

Presenter: GAYTHER, Benjamin (University College London)

Session Classification: Parallel Talks

Contribution ID: **407**

Type: **not specified**

Physics case for the proANUBIS prototype

Monday, April 4, 2022 1:45 PM (12 minutes)

Presenter: BRANDT, Oleg (University of Cambridge)

Session Classification: Parallel Talks

Contribution ID: 408

Type: **not specified**

A new approach for LHC event analysis using graph networks

Monday, April 4, 2022 6:15 PM (12 minutes)

Presenter: MULLIN, Anna (University of Cambridge)

Session Classification: Social

Contribution ID: 409

Type: **not specified**

Electron calibration for the Level-1 Calorimeter trigger at the ATLAS Experiment

Monday, April 4, 2022 6:15 PM (12 minutes)

Presenter: MARINESCU, Mihaela (University of Birmingham)

Session Classification: Social

Contribution ID: 410

Type: **not specified**

Determination of nuclear fission reactor range using water Cherenkov detectors

Monday, April 4, 2022 7:30 PM (12 minutes)

Presenter: WILSON, Stephen (The University of Sheffield)

Session Classification: Social

Contribution ID: 411

Type: **not specified**

Searches for Exclusive Flavour-Violating Decays of the Higgs and Z Bosons to a Meson and a Photon with the ATLAS Experiment

Monday, April 4, 2022 8:00 PM (12 minutes)

Presenter: WARD, Robert (University of Birmingham)

Session Classification: Social

Contribution ID: 412

Type: **not specified**

Simulation studies into the main backgrounds for ANUBIS

Monday, April 4, 2022 7:45 PM (12 minutes)

Presenter: BURR, Jon (University of Cambridge)

Session Classification: Social

Contribution ID: 413

Type: **not specified**

FERS-5200: a distributed Front-End Readout System for multidetector arrays

Monday, April 4, 2022 8:00 PM (12 minutes)

Presenter: VENTURINI, Yuri (CAEN SpA)

Session Classification: Social

Contribution ID: 414

Type: **not specified**

An Approach to the Hyper-Kamiokande Outer Detector Clustering Algorithm for Cosmic Muons

Monday, April 4, 2022 8:00 PM (12 minutes)

Presenter: BURTON, George (King's College London)

Session Classification: Social

Contribution ID: 415

Type: **not specified**

Searching for supernova relic neutrinos with SK-Gd

Monday, April 4, 2022 7:45 PM (12 minutes)

Presenter: FANNON, Jack (University of Sheffield)

Session Classification: Social

Contribution ID: 416

Type: **not specified**

Using DM-Ice17 as an assistance tool within the IceCube Neutrino Observatory

Monday, April 4, 2022 8:00 PM (12 minutes)

Presenter: CLARK, Rogan (Kings College, London)

Session Classification: Social

Contribution ID: 417

Type: **not specified**

Simulation Studies of the Hyper Kamiokande Outer Detector

Monday, April 4, 2022 7:45 PM (12 minutes)

Presenter: MILLER, Ewan (King's College London)

Session Classification: Social

Contribution ID: 418

Type: **not specified**

Hyper-Kamiokande sensitivity and systematic uncertainties studies

Monday, April 4, 2022 6:30 PM (12 minutes)

Presenter: XIE, Zhenxiong (King's College London)

Session Classification: Social

Contribution ID: 419

Type: **not specified**

Sub GeV-Scale Particle Identification with a Machine Learning Technique in the Hyper-Kamiokande Detector

Monday, April 4, 2022 6:30 PM (12 minutes)

Presenter: GAO, Joanna (King's College London)

Session Classification: Social

Contribution ID: 420

Type: **not specified**

Background in Darkside-20k

Monday, April 4, 2022 7:00 PM (12 minutes)

Presenter: SANTONE, Daria (Royal Holloway, University of London)

Session Classification: Social

Contribution ID: 421

Type: **not specified**

Muon Analysis at SNO+

Monday, April 4, 2022 7:15 PM (12 minutes)

Presenter: DIXON, Katharine (King's College London)

Session Classification: Social

Contribution ID: 422

Type: **not specified**

Understanding Neutron Backgrounds in the LUX-ZEPLIN Dark Matter Search using Multiple Scatter Events

Monday, April 4, 2022 6:45 PM (12 minutes)

Presenter: ORPWOOD, Jonathan (University of Sheffield)

Session Classification: Social

Contribution ID: 423

Type: **not specified**

Application of jet density corrections to forward topo towers using the ATLAS detector in the context of $ttZ(Z \rightarrow \nu\nu)$.

Monday, April 4, 2022 6:45 PM (12 minutes)

Presenter: POSTILL, Michael (University of Sheffield)

Session Classification: Social

Contribution ID: 424

Type: **not specified**

Fiducial and differential measurements of $W+W-$ production in decay topologies inspired by searches for electroweak supersymmetry in two-lepton final states.

Monday, April 4, 2022 6:45 PM (12 minutes)

Presenter: RUTHERFORD COLMENARES, Sebastian (University of Cambridge)

Session Classification: Social

Contribution ID: 425

Type: **not specified**

Validating the Field Response Simulation of the Short-Baseline Near Detector (SBND)

Monday, April 4, 2022 6:45 PM (12 minutes)

Presenter: SCOTT, Harry (University of Sheffield)

Session Classification: Social

Contribution ID: 426

Type: **not specified**

Probing New Physics at the LHC: the EFT Pathway

Monday, April 4, 2022 7:15 PM (12 minutes)

Presenter: THOMAS, Marion (University of Manchester)

Session Classification: Social

Contribution ID: 427

Type: **not specified**

Atom Interferometers for Fundamental Physics

Monday, April 4, 2022 7:30 PM (12 minutes)

Presenter: THROSSELL, Henry (University of Liverpool)

Session Classification: Social

Contribution ID: 428

Type: **not specified**

Investigating the Material Compatibility of Gadolinium Sulphate with Photosensors via Long-term Soak Tests

Monday, April 4, 2022 7:30 PM (12 minutes)

Presenter: TOTH, Christopher (STFC)

Session Classification: Social

Contribution ID: 429

Type: **not specified**

Research and development towards a next-generation dark matter experiment at Boulby Underground Laboratory.

Monday, April 4, 2022 7:15 PM (12 minutes)

Presenter: TRANTER, Jemima (University of Sheffield)

Session Classification: Social

Contribution ID: 430

Type: **not specified**

First Results of the 2021 FASER Calorimeter Test Beam

Monday, April 4, 2022 7:30 PM (12 minutes)

Presenter: CAVANAGH, Charlotte (University of Liverpool)

Session Classification: Social

Contribution ID: 431

Type: **not specified**

Monitoring Nuclear Sites via Anti-Neutrino Detection

Monday, April 4, 2022 7:15 PM (12 minutes)

Presenter: DASARI, Joel (University of Liverpool)

Session Classification: Social

Contribution ID: 432

Type: **not specified**

Measurement of Charged Pion Production Cross-Sections for Interactions of Muon Neutrinos on Argon in MicroBooNE

Monday, April 4, 2022 7:30 PM (12 minutes)

Presenter: DETJE, Jan Philip (MicroBooNE Collaboration / University of Cambridge)

Session Classification: Social

Contribution ID: 433

Type: **not specified**

Rapid Prototype Plastic Scintillators for Gamma Detection

Monday, April 4, 2022 7:15 PM (12 minutes)

Presenter: GREER, James (University of Sheffield)

Session Classification: Social

Contribution ID: 434

Type: **not specified**

Using MCMC on Hyper-Kamiokande

Monday, April 4, 2022 8:00 PM (12 minutes)

Presenter: ISRAEL, Henry (Sheffield University)

Session Classification: Social

Contribution ID: 435

Type: **not specified**

Selecting antineutrino charged current events with photons in the final state using the T2K near detector

Monday, April 4, 2022 7:00 PM (12 minutes)

Presenter: LAMERS JAMES, Menai (Lancaster University and Rutherford Appleton Laboratory (on behalf of the T2K collaboration))

Session Classification: Social

Contribution ID: 436

Type: **not specified**

Comparing Reconstruction Paradigms in MicroBooNE's First Low Energy Excess Analyses

Monday, April 4, 2022 7:45 PM (12 minutes)

Presenter: SHI, Jingyuan (University of Cambridge)

Session Classification: Social

Contribution ID: 437

Type: **not specified**

Low-level reconstruction improvements for future low-energy excess (LEE) Pandora-based analyses at MicroBooNE

Monday, April 4, 2022 7:00 PM (12 minutes)

Presenter: WRESILO, Karolina (University of Cambridge)

Session Classification: Social

Contribution ID: 438

Type: **not specified**

Searching for Axion-Like Particles with The Mu3e Experiment

Monday, April 4, 2022 7:00 PM (12 minutes)

Presenter: HUGHES, Sean (University of Liverpool)

Session Classification: Social

Contribution ID: 439

Type: **not specified**

A new technique for the reconstruction of the interaction vertices inside the CMS detector at HL-LHC

Monday, April 4, 2022 7:45 PM (12 minutes)

Presenter: SALVI, Giovanna (University of Southampton)

Session Classification: Social

Contribution ID: 440

Type: **not specified**

Selection of muon neutrino charged-current interactions with improved acceptance in the T2K off-axis near detector

Monday, April 4, 2022 7:45 PM (12 minutes)

Presenter: XU, Yongheng (Lancaster University)

Session Classification: Social

Contribution ID: 441

Type: **not specified**

Tuning NEUT's physics models using a new electron scattering extension

Monday, April 4, 2022 7:00 PM (12 minutes)

Presenter: MCELWEE, Jordan (The University of Sheffield)

Session Classification: Social

Contribution ID: 442

Type: **not specified**

Classification of the $^{13}\text{C}(\alpha,n)^{16}\text{O}$ background in the SNO+ antineutrino analyses

Monday, April 4, 2022 7:30 PM (12 minutes)

Presenter: MILLS, Charlie (University of Sussex)

Session Classification: Social

Contribution ID: 443

Type: **not specified**

Search for Resonant Production from $hh \rightarrow b\bar{b}b\bar{b}$ in ATLAS Detector using Superboosted Analysis

Monday, April 4, 2022 6:30 PM (12 minutes)

Presenter: NORISAM, Raif (University College London)

Session Classification: Social

Contribution ID: 444

Type: **not specified**

Large-scale data processing and monitoring for run 3 with Analysis Productions at LHCb

Monday, April 4, 2022 6:30 PM (12 minutes)

Presenter: WHITE, Dylan Jaide (CERN/University of Manchester)

Session Classification: Social

Contribution ID: 445

Type: **not specified**

H₂-doping of liquid xenon detectors to search for neutrinoless double beta decay.

Monday, April 4, 2022 6:15 PM (12 minutes)

Presenter: JACQUET, Elisa (Imperial College London)

Session Classification: Social

Contribution ID: 446

Type: **not specified**

Calibration of the UK Hyper-KiloMetric Submarine Deep Detector prototype for undersea muography measurements

Monday, April 4, 2022 6:15 PM (12 minutes)

Presenter: JENKINS, Sam (University of Sheffield)

Session Classification: Social

Contribution ID: 447

Type: **not specified**

Imaging Subterranean Structures using Muon Tomography

Monday, April 4, 2022 6:15 PM (12 minutes)

Presenter: STOWELL, Patrick (University of Durham)

Session Classification: Social

Contribution ID: 448

Type: **not specified**

Charged Pion Interaction Uncertainties with Geant 4 Reweight

Monday, April 4, 2022 6:30 PM (12 minutes)

Presenter: THORPE, Christopher (Lancaster University)

Session Classification: Social

Contribution ID: 449

Type: **not specified**

ATLAS Virtual Visits - Take part from anywhere in the world

Monday, April 4, 2022 6:45 PM (12 minutes)

Presenter: RENNIE, Adam (University of Glasgow)

Session Classification: Social

Contribution ID: **450**

Type: **not specified**

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Presenter: TEST, test

Contribution ID: 451

Type: **not specified**

HEPP committee announcements

Wednesday, April 6, 2022 4:00 PM (5 minutes)

Presenter: MUHEIM, Franz

Session Classification: Plenary

Contribution ID: 452

Type: **not specified**

Reparameterisations of the neutrino mixing matrix in T2K's oscillation analysis

Monday, April 4, 2022 8:00 PM (12 minutes)

Presenter: LOPEZ MORENO, Andres (King's College London)

Session Classification: Social