

Physics at the LHC and Beyond

Report of Contributions

Contribution ID: 1

Type: **not specified**

CERN LHC seminar: Precision Tests of the Electroweak Sector with the ATLAS detector

Tuesday 17 July 2018 11:00 (1 hour)

See <https://indico.cern.ch/event/719637/>

Presenter: FROIDEVAUX, Daniel (CERN)

Contribution ID: 2

Type: **not specified**

TH Colloquium: NNLO Precision for the LHC's Next Stage

Wednesday 18 July 2018 14:00 (1 hour)

Presenter: BOUGHEZAL, Radja (Argonne National Laboratory)

Contribution ID: 3

Type: **not specified**

TH Colloquium: Dark Matter in Disequilibrium

Wednesday 1 August 2018 14:00 (1 hour)

The Gaia mission is in the process of mapping nearly 1% of the Milky Way's stars. This data set is unprecedented and provides a unique view into the formation history of our Galaxy and its associated dark matter halo. I will review results based on the most recent Gaia data release, which demonstrate that the inner Galaxy is dominated by the stellar remnants of a single massive satellite galaxy that merged with the Milky Way early on. These results suggest that the component of dark matter that is sourced from luminous satellites may not be in equilibrium, with a non-trivial fraction in substructure. I will explain the ramifications of these findings for direct detection experiments.

Presenter: LISANTI, Mariangela (Stanford University)

Contribution ID: 4

Type: **not specified**

TH Colloquium: Is Nature Natural?

Wednesday 8 August 2018 14:00 (1 hour)

The discovery of the Higgs boson at the Large Hadron Collider marks the culmination of a decades-long quest for the final piece of the Standard Model. But the discovery of the Higgs also adds new urgency to the hierarchy problem, namely the question of why the Higgs boson is so light despite its unique quantum sensitivity to much higher energy scales. This puzzle is made all the more challenging by the lack of evidence thus far for conventional approaches to the hierarchy problem at the LHC and other experiments. I'll discuss the essential features of the hierarchy problem and its possible solutions, with a particular focus on new approaches to the problem that have emerged in the years following the Higgs discovery. These new approaches feature novel experimental signatures, add urgency to the measurement of Higgs properties, and may shed light on dark matter and other mysteries of the Standard Model.

Presenter: CRAIG, Nathaniel (UC Santa Barbara)

Contribution ID: 5

Type: **not specified**

PDFs at the HL/HE-LHC

Tuesday 17 July 2018 15:00 (20 minutes)

Presenter: Dr ROJO, Juan (VU Amsterdam and Nikhef)

Session Classification: Parton Distribution Functions

Contribution ID: 6

Type: **not specified**

PDFs at the HL/HE-LHC

Tuesday 17 July 2018 15:20 (20 minutes)

Presenter: MOCH, S. (UHH)

Session Classification: Parton Distribution Functions

Contribution ID: 7

Type: **not specified**

Discussion

Tuesday 17 July 2018 15:40 (20 minutes)

Session Classification: Parton Distribution Functions

Contribution ID: 8

Type: **not specified**

PDFs with theory errors

Tuesday 17 July 2018 16:00 (20 minutes)

Presenter: FORTE, Stefano (Università degli Studi e INFN Milano (IT))

Session Classification: Parton Distribution Functions

Contribution ID: 9

Type: **not specified**

Discussion

Tuesday 17 July 2018 16:20 (10 minutes)

Session Classification: Parton Distribution Functions

Contribution ID: **10**

Type: **not specified**

Precision electroweak physics from LHC to HL-LHC

Friday 20 July 2018 14:00 (20 minutes)

Presenter: PICCININI, Fulvio (Universita and INFN (IT))

Session Classification: EW

Contribution ID: 11

Type: **not specified**

Introduction to QED corrected PDFs

Friday 20 July 2018 14:25 (15 minutes)

Presenter: THORNE, Robert (University College London (UK))

Session Classification: EW

Contribution ID: **12**

Type: **not specified**

QED+QCD NNLO corrections to Drell-Yan

Friday 20 July 2018 14:45 (15 minutes)

Presenter: DE FLORIAN, Daniel (International Center for Advanced Studies (AR))

Session Classification: EW

Contribution ID: **13**

Type: **not specified**

Introduction

Presenters: CAOLA, Fabrizio (University of Durham (GB)); Prof. PETRIELLO, Frank (Northwestern University and Argonne National Lab); TACKMANN, Frank (Deutsches Elektronen-Synchrotron (DE))

Contribution ID: **14**

Type: **not specified**

Introduction

Thursday 19 July 2018 10:30 (10 minutes)

Presenters: CAOLA, Fabrizio (University of Durham (GB)); PETRIELLO, Frank (Northwestern University and Argonne National Lab); TACKMANN, Frank (Deutsches Elektronen-Synchrotron (DE))

Session Classification: NNLO

Contribution ID: 15

Type: **not specified**

Numerical loop integrals

Thursday 19 July 2018 10:40 (10 minutes)

Presenter: BOROWKA, Sophia Carola (CERN)

Session Classification: NNLO

Contribution ID: **16**

Type: **not specified**

Nested soft collinear subtractions

Thursday 19 July 2018 10:50 (10 minutes)

Presenter: CAOLA, Fabrizio (University of Durham (GB))

Session Classification: NNLO

Contribution ID: 17

Type: **not specified**

Antenna subtraction

Thursday 19 July 2018 11:00 (10 minutes)

Presenter: HUSS, Alexander Yohei (CERN)

Session Classification: NNLO

Contribution ID: **18**

Type: **not specified**

N-jettiness

Thursday 19 July 2018 11:10 (10 minutes)

Presenter: TACKMANN, Frank (Deutsches Elektronen-Synchrotron (DE))

Session Classification: NNLO

Contribution ID: **19**

Type: **not specified**

Discussion

Thursday 19 July 2018 11:20 (40 minutes)

Session Classification: NNLO

Contribution ID: 20

Type: **not specified**

EW Logarithms from DGLAP evolution

Friday 20 July 2018 15:15 (20 minutes)

Presenter: BAUER, Christian Walter (University of California Berkeley (US))

Session Classification: EW

Contribution ID: **21**

Type: **not specified**

Electroweak Gauge Boson PDFs

Friday 20 July 2018 15:00 (15 minutes)

Presenter: MANOHAR, Aneesh Vasant (Univ. of California San Diego (US))

Session Classification: EW

Contribution ID: 22

Type: **not specified**

Resummation

Friday 20 July 2018 15:35 (15 minutes)

Presenter: MANOHAR, Aneesh Vasant (Univ. of California San Diego (US))

Session Classification: EW

Contribution ID: 23

Type: **not specified**

TH Colloquium: The generalized double copy and its applications to UV properties of supergravity theories

Wednesday 25 July 2018 14:00 (1 hour)

Presenter: BERN, Zvi (Univ. of California Los Angeles (US))

Contribution ID: 24

Type: **not specified**

Neutral Naturalness

Presenter: SALVIONI, Ennio (Technische Universität Muenchen (DE))

Session Classification: Discussion

Contribution ID: 25

Type: **not specified**

BSM/EFT

Wednesday 1 August 2018 11:00 (1 hour)

Presenter: SUTHERLAND, Dave

Contribution ID: 26

Type: **not specified**

Precision Electroweak Physics at the LHC

Tuesday 31 July 2018 15:00 (1 hour)

Presenters: ENGLERT, Christoph (Heidelberg University); PANICO, Giuliano (The Barcelona Institute of Science and Technology (BIST) (ES)); SPANNOWSKY, Michael (University of Durham (GB))

Contribution ID: 27

Type: **not specified**

Bound states of Dark Matter

Monday 30 July 2018 11:00 (1 hour)

Presenter: REDI, Michele (Universita e INFN, Firenze (IT))

Contribution ID: 28

Type: **not specified**

Neutral Naturalness

Monday 30 July 2018 15:00 (1 hour)

Presenter: SALVIONI, Ennio (Technische Universität Muenchen (DE))

Contribution ID: 29

Type: **not specified**

LLPs

Thursday 2 August 2018 15:00 (1 hour)

Presenter: CURTIN, David (University of Toronto)

Contribution ID: 30

Type: **not specified**

Exotic Higgs Decays

Presenter: LIU, Zhen (Fermilab)

Session Classification: Seminar

Contribution ID: 31

Type: **not specified**

Exotic Higgs Decays

Friday 27 July 2018 11:30 (1 hour)

Presenter: LIU, Zhen (Fermilab)

Contribution ID: **32**

Type: **not specified**

Supersymmetry at colliders.

Thursday 26 July 2018 16:00 (1 hour)

Presenter: WAGNER, Carlos E.M. (University of Chicago)

Contribution ID: 33

Type: **not specified**

The Higgs as a Tool for Exploration

Friday 27 July 2018 10:00 (1 hour)

Presenter: CARENA, Marcela (Fermilab)

Contribution ID: 34

Type: **not specified**

Axion and Dark Photon Direct Detection

Tuesday 31 July 2018 11:00 (1 hour)

Presenter: BARYAKHTAR, Masha (PI - Perimeter Institute for Theoretical Physics (CA))

Contribution ID: 35

Type: **not specified**

New Ideas for Light Dark Matter

Wednesday 25 July 2018 11:00 (1 hour)

Presenter: HOCHBERG, Yonit (Hebrew University)

Contribution ID: 36

Type: **not specified**

EFT at colliders: What next?

Thursday 26 July 2018 09:30 (1 hour)

Presenter: MALTONI, Fabio (Universite Catholique de Louvain (UCL) (BE))

Contribution ID: 37

Type: **not specified**

Solving the Hierarchy Problem Discretely - A light Higgs without top partners

Thursday 9 August 2018 11:00 (1 hour)

Presenter: Prof. HOOK, Anson (Maryland)

Contribution ID: 38

Type: **not specified**

Black Hole Dark Matter

Friday 3 August 2018 11:00 (1 hour)

Presenter: PUJOLAS BOIX, Oriol (Universitat Autònoma de Barcelona (ES))

Contribution ID: 39

Type: **not specified**

Higgs, Relaxion, and Dark Matter

Friday 10 August 2018 10:00 (40 minutes)

Presenter: FONSECA, Nayara (DESY)

Contribution ID: **40**

Type: **not specified**

TBA

Friday 10 August 2018 11:10 (40 minutes)

Presenter: PEREZ, Gilad (CERN & Weizmann)

Contribution ID: 41

Type: **not specified**

Relaxion phenomenology

Friday 10 August 2018 11:50 (40 minutes)

Presenter: REDIGOLO, Diego (Weizmann Inst. & Tel Aviv University)

Contribution ID: 42

Type: **not specified**

Cosmological Probes of Fine Tuning

Tuesday 7 August 2018 11:00 (1 hour)

Presenter: FAN, JiJi (Brown University)

Contribution ID: 43

Type: **not specified**

Machine Learning and BSM

Tuesday 7 August 2018 15:00 (1 hour)

Presenters: WULZER, Andrea (CERN); COHEN, Tim (University of Oregon)

Contribution ID: 44

Type: **not specified**

Axionic Electroweak Baryogenesis

Wednesday 8 August 2018 11:00 (1 hour)

Presenter: SHIN, Chang Sub (Institute for Basic Science)