

**ESIPAP 2017 - Module 1 -
Physics of particle and
astroparticle detectors**

Report of Contributions

Contribution ID: 0

Type: **not specified**

A few things about particle accelerators

Contribution ID: 1

Type: **not specified**

Introduction

Contribution ID: 2

Type: **not specified**

Units, quantities, kinematics, measurements

Contribution ID: 3

Type: **not specified**

Tutorial 1: kinematics, particle interaction and detector response

Contribution ID: 4

Type: **not specified**

Particle interactions in particle detectors

Contribution ID: 5

Type: **not specified**

Tutorial 2; analysis of classic experiments

Contribution ID: 6

Type: **not specified**

Systems used to identify and measure particle properties

Contribution ID: 7

Type: **not specified**

Tutorial 3: analysis of the ATLAS and CMS Higgs mass measurement papers

Contribution ID: 8

Type: **not specified**

Particle experiment design

Contribution ID: 9

Type: **not specified**

Tutorial 4: analysis of neutrino experiments

Contribution ID: **10**

Type: **not specified**

Detection of neutrinos (and other invisible particles)

Contribution ID: 11

Type: **not specified**

Full lecture notes, tutorial on CMB experiments, tutorial on LSS experiments

Presenter: MACIAS-PEREZ, Juan Francisco (L)

Contribution ID: 12

Type: **not specified**

Experimental astoparticle physics : lecture 2

Presenter: Prof. MONTANET, Francois (LPSC IN2P3/CNRS Univ. Grenoble)

Contribution ID: 13

Type: **not specified**

Experimental astroparticle physics : lecture 1

Presenter: Prof. MONTANET, Francois (LPSC IN2P3/CNRS Univ. Grenoble)

Contribution ID: 14

Type: **not specified**

Experimental Astroparticle Physics Tutorial 1

Monday, January 30, 2017 10:45 AM (1h 30m)

Presenter: Prof. MONTANET, Francois (LPSC IN2P3/CNRS Univ. Grenoble)

Contribution ID: 15

Type: **not specified**

Experimental Astroparticle Physics (tutorial)

Presenter: DELMASTRO, Marco (CNRS/IN2P3 LAPP)

Contribution ID: **16**

Type: **not specified**

Tutorial 1

Presenter: COLLOT, Johann (Centre National de la Recherche Scientifique (FR))

Contribution ID: 17

Type: **not specified**

Lecture 1

Presenter: COLLOT, Johann (Centre National de la Recherche Scientifique (FR))

Contribution ID: **18**

Type: **not specified**

Tutorial 2

Presenter: COLLOT, Johann (Centre National de la Recherche Scientifique (FR))

Contribution ID: **19**

Type: **not specified**

Lecture 2

Presenter: COLLOT, Johann (Centre National de la Recherche Scientifique (FR))

Contribution ID: 20

Type: **not specified**

Lecture 2

Statistic and estimators (mean, variance, maximum likelihood, chi-square fit)

Presenter: CLEMENT, Benoit Eric (Université Joseph Fourier/LPSC)

Contribution ID: 21

Type: **not specified**

Lecture 1

Basics in probability theory

Presenter: CLEMENT, Benoit Eric (Université Joseph Fourier/LPSC)

Contribution ID: 22

Type: **not specified**

Lecture 2

Presenter: COADOU, Yann (CPPM, Aix-Marseille Université, CNRS/IN2P3 (FR))

Contribution ID: 23

Type: **not specified**

Lecture 1

Presenter: COADOU, Yann (CPPM, Aix-Marseille Université, CNRS/IN2P3 (FR))

Contribution ID: 24

Type: **not specified**

Lecture 4

Presenter: COADOU, Yann (CPPM, Aix-Marseille Université, CNRS/IN2P3 (FR))

Contribution ID: 25

Type: **not specified**

Lecture 3

Presenter: COADOU, Yann (CPPM, Aix-Marseille Université, CNRS/IN2P3 (FR))

Contribution ID: 26

Type: **not specified**

Exam material

Contribution ID: 27

Type: **not specified**

Interaction of particles with matter Lecture 2

Wednesday, February 1, 2017 9:00 AM (1h 30m)

Presenter: DI CIACCIO, Lucia (Centre National de la Recherche Scientifique (FR))

Contribution ID: 28

Type: **not specified**

Inaugural Lecture by Peter Jenni (Albert-Ludwigs-University-Freiburg-CERN) The long journey to the Higgs boson & beyond at the LHC

Presenter: JENNI, Peter (Albert-Ludwigs-Universitaet Freiburg (DE))

Contribution ID: 29

Type: **not specified**

Experimental Cosmology Lecture 3

Wednesday, January 25, 2017 3:45 PM (1h 30m)

Presenter: MACIAS-PEREZ, Juan Francisco (LPSC, CNRS)

Contribution ID: **30**

Type: **not specified**

Registration at ESI office & Accommodation

Monday, January 23, 2017 9:00 AM (3 hours)

Contribution ID: 31

Type: **not specified**

Presentation of ESIPAP & Presentation of Students 2017

Monday, January 23, 2017 2:00 PM (1h 30m)

Presenter: COLLOT, Johann (Centre National de la Recherche Scientifique (FR))

Contribution ID: 32

Type: **not specified**

Conference : Overview of the gravitational waves search programs

Monday, January 23, 2017 3:45 PM (1h 30m)

Presenter: MOURS, Benoit

Contribution ID: 33

Type: **not specified**

Experimental Subatomic Physics Lecture 1

Tuesday, January 24, 2017 9:00 AM (1h 30m)

Presenter: DELMASTRO, Marco (CNRS/IN2P3 LAPP)

Contribution ID: 34

Type: **not specified**

Experimental Subatomic Physics Lecture 4

Wednesday, January 25, 2017 10:45 AM (1h 30m)

Presenter: DELMASTRO, Marco (CNRS/IN2P3 LAPP)

Contribution ID: 35

Type: **not specified**

Experimental Cosmology Lecture 1

Tuesday, January 24, 2017 3:45 PM (1h 30m)

Presenter: MACIAS-PEREZ, Juan Francisco (LPSC, CNRS)

Contribution ID: **36**

Type: **not specified**

Experimental Cosmology Tutorial 2

Thursday, January 26, 2017 2:00 PM (1h 30m)

Presenter: MACIAS-PEREZ, Juan Francisco (LPSC, CNRS)

Contribution ID: 37

Type: **not specified**

Experimental Subatomic Physics Lecture 2

Tuesday, January 24, 2017 10:45 AM (1h 30m)

Presenter: DELMASTRO, Marco (CNRS/IN2P3 LAPP)

Contribution ID: **38**

Type: **not specified**

Experimental Cosmology Lecture 2

Wednesday, January 25, 2017 2:00 PM (1h 30m)

Presenter: MACIAS-PEREZ, Juan Francisco (LPSC, CNRS)

Contribution ID: 39

Type: **not specified**

Experimental Subatomic Physics Tutorial 1

Wednesday, January 25, 2017 9:00 AM (1h 30m)

Presenter: DELMASTRO, Marco (CNRS/IN2P3 LAPP)

Contribution ID: 40

Type: **not specified**

Experimental Subatomic Physics Lecture 3

Tuesday, January 24, 2017 2:00 PM (1h 30m)

Presenter: DELMASTRO, Marco (CNRS/IN2P3 LAPP)

Contribution ID: 41

Type: **not specified**

Experimental Cosmology Tutorial 1

Thursday, January 26, 2017 9:00 AM (1h 30m)

Presenter: MACIAS-PEREZ, Juan Francisco (LPSC, CNRS)

Contribution ID: 42

Type: **not specified**

Experimental Subatomic Physics Tutorial 2

Thursday, January 26, 2017 10:45 AM (1h 30m)

Presenter: DELMASTRO, Marco (CNRS/IN2P3 LAPP)

Contribution ID: 43

Type: **not specified**

Experimental Cosmology Tutorial 3

Thursday, January 26, 2017 3:45 PM (1h 30m)

Presenter: MACIAS-PEREZ, Juan Francisco (LPSC, CNRS)

Contribution ID: 44

Type: **not specified**

Experimental Astroparticle Physics Lecture 1

Friday, January 27, 2017 2:00 PM (1h 30m)

Presenter: Prof. MONTANET, Francois (LPSC IN2P3/CNRS Univ. Grenoble)

Contribution ID: 45

Type: **not specified**

Interaction of Particles with matter Tutorial 1

Tuesday, January 31, 2017 10:45 AM (1h 30m)

Presenter: DI CIACCIO, Lucia (Centre National de la Recherche Scientifique (FR))

Contribution ID: 46

Type: **not specified**

Experimental Astroparticle Physics Lecture 2

Friday, January 27, 2017 3:45 PM (1h 30m)

Presenter: Prof. MONTANET, Francois (LPSC IN2P3/CNRS Univ. Grenoble)

Contribution ID: 47

Type: **not specified**

Experimental Astroparticle Physics Lecture 3

Monday, January 30, 2017 9:00 AM (1h 30m)

Presenter: Prof. MONTANET, Francois (LPSC IN2P3/CNRS Univ. Grenoble)

Contribution ID: 48

Type: **not specified**

Stochastic & Statistical Aspects : Part 1 Lecture 1

Friday, February 3, 2017 2:00 PM (1h 30m)

Presenter: RUPPIN, Florian

Contribution ID: 49

Type: **not specified**

Stochastic & Statistical Aspects : Part 1 Lecture 2

Friday, February 3, 2017 3:45 PM (1h 30m)

Presenter: RUPPIN, Florian

Contribution ID: 50

Type: **not specified**

Experimental Subatomic Physics (tutorial)

Presenter: DELMASTRO, Marco (CNRS/IN2P3 LAPP)

Contribution ID: 51

Type: **not specified**

C++ Programming

Tuesday, January 31, 2017 2:00 PM (1h 30m)

Presenter: CHABERT, Eric (Institut Pluridisciplinaire Hubert Curien (FR))

Contribution ID: 52

Type: **not specified**

C++ Programming

Tuesday, January 31, 2017 3:45 PM (1h 30m)

Presenter: CHABERT, Eric (Institut Pluridisciplinaire Hubert Curien (FR))

Contribution ID: 53

Type: **not specified**

Radioprotection

Friday, February 3, 2017 9:00 AM (1h 30m)

Presenter: Dr VINCKE, Helmut (CERN)

Contribution ID: 54

Type: **not specified**

Radioprotection

Friday, February 3, 2017 10:45 AM (1h 30m)

Presenter: Dr VINCKE, Helmut (CERN)

Contribution ID: 55

Type: **not specified**

C++ Programming

Wednesday, February 1, 2017 2:00 PM (1h 30m)

Presenter: CHABERT, Eric (Institut Pluridisciplinaire Hubert Curien (FR))

Contribution ID: 56

Type: **not specified**

C++ Programming

Wednesday, February 1, 2017 3:45 PM (1h 30m)

Presenter: CHABERT, Eric (Institut Pluridisciplinaire Hubert Curien (FR))

Contribution ID: 57

Type: **not specified**

Lab. Session : at CERN

Thursday, February 2, 2017 9:00 AM (1h 30m)

Contribution ID: **58**

Type: **not specified**

Lab. Session : at CERN

Thursday, February 2, 2017 10:45 AM (1h 30m)

Contribution ID: 59

Type: **not specified**

Lab. Session : at CERN

Thursday, February 2, 2017 2:00 PM (1h 30m)

Contribution ID: **60**

Type: **not specified**

Lab. Session : at CERN

Thursday, February 2, 2017 3:45 PM (1h 30m)

Contribution ID: **61**

Type: **not specified**

Interaction of Particles with Matter Lecture 1

Tuesday, January 31, 2017 9:00 AM (1h 30m)

Presenter: DI CIACCIO, Lucia (Centre National de la Recherche Scientifique (FR))

Contribution ID: **62**

Type: **not specified**

Interaction of Particles with Matter Tutorial 2

Wednesday, February 1, 2017 10:45 AM (1h 30m)

Presenter: DI CIACCIO, Lucia (Centre National de la Recherche Scientifique (FR))

Contribution ID: **63**

Type: **not specified**

Tracking : Lecture 1

Monday, February 6, 2017 9:00 AM (1h 30m)

Presenter: BAUDOT, Jerome (Institut Pluridisciplinaire Hubert Curien (FR))

Contribution ID: **64**

Type: **not specified**

Particle Identification

Friday, February 17, 2017 10:45 AM (1h 30m)

Presenter: UNAL, Guillaume (CERN)

Contribution ID: 65

Type: **not specified**

Particle Identification

Friday, February 17, 2017 9:00 AM (1h 30m)

Presenter: UNAL, Guillaume (CERN)

Contribution ID: **66**

Type: **not specified**

Tracking : Lecture 2

Monday, February 6, 2017 3:45 PM (1h 30m)

Presenter: BAUDOT, Jerome (Institut Pluridisciplinaire Hubert Curien (FR))

Contribution ID: 67

Type: **not specified**

Tracking : Lecture 3

Tuesday, February 7, 2017 9:00 AM (1h 30m)

Presenter: BAUDOT, Jerome (Institut Pluridisciplinaire Hubert Curien (FR))

Contribution ID: **68**

Type: **not specified**

Stochastic & Statistical Aspects : Part 2 Lecture 3

Tuesday, February 7, 2017 10:45 AM (1h 30m)

Presenter: COADOU, Yann (CPPM, Aix-Marseille Université, CNRS/IN2P3 (FR))

Contribution ID: **69**

Type: **not specified**

Stochastic & Statistical Aspects : Part 2 Lecture 4

Tuesday, February 7, 2017 2:00 PM (1h 30m)

Presenter: COADOU, Yann (CPPM, Aix-Marseille Université, CNRS/IN2P3 (FR))

Contribution ID: 70

Type: **not specified**

Tracking : tutorial

Tuesday, February 7, 2017 3:45 PM (1h 30m)

Presenter: BAUDOT, Jerome (Institut Pluridisciplinaire Hubert Curien (FR))

Contribution ID: 71

Type: **not specified**

Calorimetry : lecture 1

Monday, February 13, 2017 10:45 AM (1h 30m)

Presenter: Dr OCHANDO, Christophe (Centre National de la Recherche Scientifique (FR))

Contribution ID: 72

Type: **not specified**

Imaging and Cerenkov Detectors Lecture 1

Wednesday, February 8, 2017 9:00 AM (1h 30m)

Presenter: MONTANET, Francois (LPSC IN2P3/CNRS Univ. Grenoble)

Contribution ID: 73

Type: **not specified**

Imaging and Cerenkov Detectors Lecture 2

Wednesday, February 8, 2017 10:45 AM (1h 30m)

Presenter: MONTANET, Francois (LPSC IN2P3/CNRS Univ. Grenoble)

Contribution ID: 74

Type: **not specified**

Imaging and Cerenkov Detectors Lecture 3

Friday, February 10, 2017 2:00 PM (1h 30m)

Presenter: Prof. MONTANET, Francois (LPSC IN2P3/CNRS Univ. Grenoble)

Contribution ID: 75

Type: **not specified**

Lab. Session at CERN

Thursday, February 9, 2017 9:00 AM (1h 30m)

Contribution ID: 76

Type: **not specified**

Lab. Session at CERN

Thursday, February 9, 2017 10:45 AM (1h 30m)

Contribution ID: 77

Type: **not specified**

Lab. Session at CERN

Thursday, February 9, 2017 2:00 PM (1h 30m)

Contribution ID: 78

Type: **not specified**

Lab. Session at CERN

Thursday, February 9, 2017 3:45 PM (1h 30m)

Contribution ID: 79

Type: **not specified**

Muon Detection Lecture 1

Wednesday, February 8, 2017 2:00 PM (1h 30m)

Presenter: CHEVALIER, Laurent (CEA/IRFU,Centre d'étude de Saclay Gif-sur-Yvette (FR))

Contribution ID: **80**

Type: **not specified**

Muon Detection Lecture 3

Friday, February 10, 2017 9:00 AM (1h 30m)

Presenter: CHEVALIER, Laurent (CEA/IRFU,Centre d'étude de Saclay Gif-sur-Yvette (FR))

Contribution ID: **81**

Type: **not specified**

Muon Detection Tutorial

Friday, February 10, 2017 10:45 AM (1h 30m)

Presenter: CHEVALIER, Laurent (CEA/IRFU,Centre d'etude de Saclay Gif-sur-Yvette (FR))

Contribution ID: **82**

Type: **not specified**

Calorimetry : Lecture 2

Monday, February 13, 2017 3:45 PM (1h 30m)

Presenter: OCHANDO, Christophe (Centre National de la Recherche Scientifique (FR))

Contribution ID: **83**

Type: **not specified**

Detector Simulation

Presenters: Dr RIBON, Alberto (CERN); POKORSKI, Witold (CERN)

Contribution ID: **84**

Type: **not specified**

Calorimetry : Lecture 3

Tuesday, February 14, 2017 9:00 AM (1h 30m)

Presenter: OCHANDO, Christophe (Centre National de la Recherche Scientifique (FR))

Contribution ID: **85**

Type: **not specified**

Detector Simulation

Presenters: Dr RIBON, Alberto (CERN); POKORSKI, Witold (CERN)

Contribution ID: **86**

Type: **not specified**

Muon Detection

Presenter: CHEVALIER, Laurent (CEA/IRFU,Centre d'étude de Saclay Gif-sur-Yvette (FR))

Contribution ID: **87**

Type: **not specified**

Detector Simulation

Presenters: Dr RIBON, Alberto (CERN); POKORSKI, Witold (CERN)

Contribution ID: **88**

Type: **not specified**

Calorimetry : Lecture 4

Tuesday, February 14, 2017 10:45 AM (1h 30m)

Presenter: OCHANDO, Christophe (Centre National de la Recherche Scientifique (FR))

Contribution ID: **89**

Type: **not specified**

Detector Simulation

Presenters: Dr RIBON, Alberto (CERN); POKORSKI, Witold (CERN)

Contribution ID: **90**

Type: **not specified**

Computing Sessions

Wednesday, February 15, 2017 9:00 AM (1h 30m)

Presenters: CHABERT, Eric (Institut Pluridisciplinaire Hubert Curien (FR)); CONTE, Eric (Laboratoire de Physique Corpusculaire (LPC))

Contribution ID: **91**

Type: **not specified**

Computing Sessions

Wednesday, February 15, 2017 10:45 AM (1h 30m)

Presenters: CHABERT, Eric (Institut Pluridisciplinaire Hubert Curien (FR)); CONTE, Eric (Laboratoire de Physique Corpusculaire (LPC))

Contribution ID: 92

Type: **not specified**

Computing Sessions

Wednesday, February 15, 2017 2:00 PM (1h 30m)

Presenters: CHABERT, Eric (Institut Pluridisciplinaire Hubert Curien (FR)); CONTE, Eric (Laboratoire de Physique Corpusculaire (LPC))

Contribution ID: 93

Type: **not specified**

Computing Sessions

Wednesday, February 15, 2017 3:45 PM (1h 30m)

Presenters: CHABERT, Eric (Institut Pluridisciplinaire Hubert Curien (FR)); CONTE, Eric (Laboratoire de Physique Corpusculaire (LPC))

Contribution ID: 94

Type: **not specified**

Computing Sessions

Thursday, February 16, 2017 9:00 AM (1h 30m)

Presenters: CHABERT, Eric (Institut Pluridisciplinaire Hubert Curien (FR)); CONTE, Eric (Laboratoire de Physique Corpusculaire (LPC))

Contribution ID: 95

Type: **not specified**

Computing Sessions

Thursday, February 16, 2017 10:45 AM (1h 30m)

Presenters: CHABERT, Eric (Institut Pluridisciplinaire Hubert Curien (FR)); CONTE, Eric (Laboratoire de Physique Corpusculaire (LPC))

Contribution ID: **96**

Type: **not specified**

Computing Sessions

Thursday, February 16, 2017 2:00 PM (1h 30m)

Presenters: CHABERT, Eric (Institut Pluridisciplinaire Hubert Curien (FR)); CONTE, Eric (Laboratoire de Physique Corpusculaire (LPC))

Contribution ID: 97

Type: **not specified**

Computing Sessions

Thursday, February 16, 2017 3:45 PM (1h 30m)

Presenters: CHABERT, Eric (Institut Pluridisciplinaire Hubert Curien (FR)); CONTE, Eric (Laboratoire de Physique Corpusculaire (LPC))

Contribution ID: 98

Type: **not specified**

Stochastic & Statistical Aspects : Multivariate analysis and boosted decision trees

Presenter: COADOU, Yann (CPPM, Aix-Marseille Université, CNRS/IN2P3 (FR))

Contribution ID: 99

Type: **not specified**

Stochastic & Statistical Aspects : Multivariate analysis and boosted decision trees

Presenter: COADOU, Yann (CPPM, Aix-Marseille Université, CNRS/IN2P3 (FR))

Contribution ID: **100**

Type: **not specified**

Exam Calorimetry

Contribution ID: **101**

Type: **not specified**

Experimental Subatomic Physics Lecture 5

Friday, January 27, 2017 9:00 AM (1h 30m)

Presenter: DELMASTRO, Marco (CNRS/IN2P3 LAPP)

Contribution ID: **102**

Type: **not specified**

Experimental Subatomic Physics Tutorial 3

Friday, January 27, 2017 10:45 AM (1h 30m)

Presenter: DELMASTRO, Marco (CNRS/IN2P3 LAPP)

Contribution ID: **103**

Type: **not specified**

Experimental Subatomic Physics Tutorial 4

Monday, January 30, 2017 2:00 PM (1h 30m)

Presenter: DELMASTRO, Marco (CNRS/IN2P3 LAPP)

Contribution ID: **104**

Type: **not specified**

Experimental Subatomic Physics Tutorial 5

Monday, January 30, 2017 3:45 PM (1h 30m)

Presenter: DELMASTRO, Marco (CNRS/IN2P3 LAPP)

Contribution ID: **105**

Type: **not specified**

Detector Simulation

Monday, February 13, 2017 9:00 AM (1h 30m)

Presenter: POKORSKI, Witold (CERN)

Contribution ID: **106**

Type: **not specified**

Detector Simulation

Tuesday, February 14, 2017 3:45 PM (1h 30m)

Presenter: RIBON, Alberto (CERN)

Contribution ID: **107**

Type: **not specified**

Stochastic & Statistical Aspects : Part 2 Lecture 1

Monday, February 6, 2017 10:45 AM (1h 30m)

Presenter: COADOU, Yann (CPPM, Aix-Marseille Université, CNRS/IN2P3 (FR))

Contribution ID: **108**

Type: **not specified**

Stochastic & Statistical Aspects : Part 2 Lecture 2

Monday, February 6, 2017 2:00 PM (1h 30m)

Presenter: COADOU, Yann (CPPM, Aix-Marseille Université, CNRS/IN2P3 (FR))

Contribution ID: **109**

Type: **not specified**

Detector Simulation

Monday, February 13, 2017 2:00 PM (1h 30m)

Presenter: POKORSKI, Witold (CERN)

Contribution ID: **110**

Type: **not specified**

Detector Simulation

Tuesday, February 14, 2017 2:00 PM (1h 30m)

Presenter: RIBON, Alberto (CERN)

Contribution ID: **111**

Type: **not specified**

Muon Detection Lecture 2

Wednesday, February 8, 2017 3:45 PM (1h 30m)

Contribution ID: **112**

Type: **not specified**

C++ Programming

Tuesday, January 31, 2017 5:15 PM (1h 30m)

Presenter: CHABERT, Eric (Institut Pluridisciplinaire Hubert Curien (FR))

Contribution ID: **113**

Type: **not specified**

Computing Sessions

Wednesday, February 15, 2017 5:15 PM (1h 30m)

Primary author: CHABERT, Eric (Institut Pluridisciplinaire Hubert Curien (FR))

Presenters: CHABERT, Eric (Institut Pluridisciplinaire Hubert Curien (FR)); CONTE, Eric (Institut Pluridisciplinaire Hubert Curien (FR))

Contribution ID: **114**

Type: **not specified**

ESI WELCOME & BUILDING VISIT

Monday, January 23, 2017 12:00 PM (30 minutes)