Workshop on high-precision alpha_s measurements: from LHC to FCC-ee

Report of Contributions

https://indico.cern.ch/e/alphas2015
Presentation / Goals of the workshop

Monday, 12 October 2015 14:00 (10 minutes)

Presenters:  D’ENTERRIA, David (CERN);  SKANDS, Peter (Monash University (AU))
Contribution ID: 1

Type: not specified

World Summary of alpha_s (2015)

Monday, 12 October 2015 14:10 (35 minutes)

Presenter: BETHKE, Siegfried (Max-Planck-Institut fuer Physik (Werner-Heisenberg-Institut) (D))
alpha_s and physics beyond the Standard Model

Monday, 12 October 2015 14:45 (30 minutes)

Presenter: SANNINO, francesco (CP3-Origins)
Impact of alpha_s on Higgs prod. & decay uncertainties

Monday, 12 October 2015 15:15 (25 minutes)

Presenter: MIHAILA, Luminita
alpha_s from lattice QCD

Monday, 12 October 2015 16:00 (25 minutes)

Presenter: MACKENZIE, paul (Fermilab)

Session Classification: alpha_s at low scales
alpha_s from pion decay factor

Monday, 12 October 2015 16:45 (25 minutes)

**Presenter:** KNEUR, Jean-Loic (Univ. Montpellier 2)

**Session Classification:** alpha_s at low scales
alpha_s from hadronic tau decays

Monday, 12 October 2015 17:10 (25 minutes)

Presenters:  PICH, Antonio (University of Valencia);  PICH, Antonio (Unknown)
Session Classification:  alpha_s at low scales
alpha_s from hadronic quarkonia decays

Presenter: JOAN, Soto i Riera (UB)

Session Classification: alpha_s at low scales
alpha_s from soft parton-to-hadron FFs

Monday, 12 October 2015 18:00 (20 minutes)

Presenters: D’ENTERRIA, David (CERN); PEREZ-RAMOS, Redamy

Session Classification: alpha_s at low scales
alpha_s from DIS (PDFs):

Tuesday, 13 October 2015 09:30 (25 minutes)

**Presenter:** BLUEMLEIN, Johannes (DESY)

**Session Classification:** alpha_s at high scales
alpha_s from DIS (jets, photoproduction)

Tuesday, 13 October 2015 09:55 (25 minutes)

Presenter:  KLASEN, Michael

Session Classification:  alpha_s at high scales
alpha_s from e+e- event shapes

Tuesday, 13 October 2015 10:45 (25 minutes)

**Presenter:** KLUTH, Stefan (Max-Planck-Institut fuer Physik (Werner-Heisenberg-Institut) (D))

**Session Classification:** alpha_s at high scales
Contributed by: HOANG, Andre (U)

Session Classification: alpha_s at high scales
alpha_s from e+e- jet cross sections

Tuesday, 13 October 2015 11:50 (25 minutes)

Primary author:  BANFI, Andrea (University of Sussex)
Presenter:  BANFI, Andrea (University of Sussex)
Session Classification:  alpha_s at high scales
alpha_s from hadronic Z decays and from the full electroweak fit

Tuesday, 13 October 2015 12:15 (25 minutes)

Presenter: MONIG, Klaus (Deutsches Elektronen-Synchrotron (DE))
Session Classification: alpha_s at high scales
alpha_s from hadronic W decays

Tuesday, 13 October 2015 13:05 (25 minutes)

Primary authors:  D’ENTERRIA, David (CERN); SREBRE, Matej (CERN)

Presenters:  D’ENTERRIA, David (CERN); SREBRE, Matej (CERN)

Session Classification:  alpha_s at high scales
alpha_s from sigma(e+e→hadrons)

Tuesday, 13 October 2015 12:40 (25 minutes)

Presenter:  KUEHN, Johann (KIT, Karlsruhe, Germany)
Session Classification:  alpha_s at high scales
alpha_s from sigma(ttbar) at the LHC

Tuesday, 13 October 2015 15:15 (25 minutes)

**Presenter:**  MITOV, Alexander Dimitrov (University of Cambridge (GB))

**Session Classification:**  alpha_s at hadron colliders
Future prospects of alpha_s from jets at the LHC at NNLO

Tuesday, 13 October 2015 16:00 (25 minutes)

Primary author:  Pires, Joao (Milano Bicocca)
Presenter:  Pires, Joao (Milano Bicocca)
Session Classification:  alpha_s at hadron colliders
alpha_s determinations from ATLAS (status & plans)

Tuesday, 13 October 2015 16:45 (25 minutes)

Primary author: MALAESCU, Bogdan (Centre National de la Recherche Scientifique (FR))
Presenter: MALAESCU, Bogdan (Centre National de la Recherche Scientifique (FR))
Session Classification: alpha_s at hadron colliders
alpha_s determinations from CMS (status & plans)

Tuesday, 13 October 2015 17:10 (25 minutes)

Presenter: RABBERTZ, Klaus (KIT - Karlsruhe Institute of Technology (DE))
Session Classification: alpha_s at hadron colliders
Workshop summary

Presenter: ALTARELLI, Guido (Terza Universita di Roma (IT))
Conclusions (FCC-ee Yellow Report preparation)

Tuesday, 13 October 2015 17:35 (40 minutes)
alpha_s from scaling violations of hard parton-to-hadron FFs

Tuesday, 13 October 2015 10:20 (25 minutes)

**Presenter:** Prof. KIEHL, Bernd (II. Institut für Theoretische Physik Universität Hamburg)

**Session Classification:** alpha_s at high scales
Determination of $\alpha_s$ from the QCD static energy

Monday, 12 October 2015 16:25 (20 minutes)

Presenter:  GARCIA TORMO, Xavier
Session Classification:  alpha_s at low scales
alpha_s from sigma(ttbar): latest developments

Tuesday, 13 October 2015 15:40 (20 minutes)

Presenter:  SALAM, Gavin (CERN)
Session Classification:  alpha_s at hadron colliders