



Physics Slam

Cutting-edge physics in 3 minutes!

27 July, 19:30-21:00, Room: Audimax

EUROPEAN PHYSICAL SOCIETY
CONFERENCE ON HIGH ENERGY PHYSICS 2015

22 - 29 JULY 2015

VIENNA, AUSTRIA



Simon Vercaemer

Neutron identification in the SoLid experiment

The SoLid experiment aims to make a short baseline neutrino oscillation measurement at the BR2 reactor in Belgium. Neutrinos are detected via inverse beta decay (IBD) on a proton, yielding a positron and a neutron. Crucial for IBD reconstruction is a highly efficient neutron id



Erica Brondolin

CMS tracking challenges yesterday, today and tomorrow

I will give an overview of the iterative track reconstruction used in CMS, one of the two general-purpose experiments at the LHC, with the performance obtained yesterday (Run1), recent tracking improvements for today (Run2), and some ideas (and foreseen results) for tomorrow (Phase2)



Alex Birnkraut

b-flavour tagging in pp collisions (LHCb)

Measurements of flavour oscillations and time-dependent CP asymmetries in neutral B meson systems require knowledge of the b quark flavour at production. This identification is performed by the Flavour Tagging



Manfred Valentan

The Belle II Pixel Detector in its high radiation environment

The Pixel Detector of the Belle II experiment has to operate in a hostile environment with high radiation levels. I will show you a few tricks how we make sure that our sensors deliver meaningful measurements nonetheless



Alexandra Oliveira

Study of HH production at CMS

The production of pairs of Higgs bosons provides a direct handle on the structure of the Higgs field potential. While HH production within the SM is very small, several beyond-SM theories foresee an enhancement that can be already probed with the available data



Valerio Vagelli

Measurement of the cosmic ray e[±] flux with the AMS experiment on the International Space Station

Our planet is continuously bombarded by subatomic particles, like protons and electrons, coming from outer space: the "cosmic rays". Why are cosmic rays so many? Where do they originate? To answer these questions, and more, physicists launched the AMS experiment into space to study cosmic rays and the origin of the Universe.



Linda Cremonesi

Status of the Hyper-Kamiokande Project

Hyper-Kamiokande is a future experiment in Japan which will use almost one MegaTon of water under 1 km of rock to see the most elusive particles in the universe, neutrinos, and in turn discover the secrets of the asymmetry between matter and antimatter in the universe



Valerio Rossetti

Performance of the ATLAS calorimeters and commissioning for LHC Run-2

The ATLAS experiment at the LHC is equipped with electromagnetic and hadronic liquid-argon (LAr) calorimeters and a hadronic scintillator-steel sampling calorimeter (TileCal) for measuring energy and direction of final state particles. We review the main commissioning and performance results of data-taking from 2009 until now



Badger Marzocchi

Precision electromagnetic calorimetry at the energy frontier: The CMS ECAL at the LHC Run 2

The LHC Run 2 has recently begun, at energy of 13 TeV. After the successful Higgs boson discovery via the diphoton decays, the CMS electromagnetic calorimeter is at the forefront of the search for new physics and precision measurements. Its excellent performance relies on precision calibration maintained over time, despite severe irradiation conditions



Hideyuki Oide

Improvements to ATLAS track reconstruction for Run 2

In this talk, improvements of ATLAS Inner Detector track reconstruction for the LHC Run2, and the early results using commissioning and the collision data will be shortly reviewed and discussed.



Andrew Wharton

What's the matter with antimatter?

At the time of the big bang, the universe contained almost equal amounts of matter and antimatter, however by about three minutes later almost all the antimatter had disappeared! In this talk I'll explain one way we might try to unravel this mystery, by understanding the breaking of the charge-parity symmetry in weak interactions



Suchita Kulkarni

The answer is 42!

Several experiments are searching for the answers of fundamental questions and nature of laws of physics today. I will explain the important of exploiting the complementarity between different fields