T 24: Invited Overview Talks 2

Time: Tuesday 9:00–10:30 Location: Geb. 30.95: Audimax

Invited Overview Talk T 24.1 Tue 9:00 Geb. 30.95: Audimax

Latest results of the LHCb experiment — •Dominik Stefan Mitzel — TU Technical University Dortmund

Over the last decade, the LHCb collaboration has played a major role in the landscape of flavour physics and recently submitted its 700th paper for publication. The results are mainly based on proton-proton collision data recorded in two run periods, referred to as Run I (2010-2012) and Run II (2015-2018). Outstanding results have been achieved for instance in the areas rare decays, neutral meson oscillations and measurements of CP violation. LHCb continues analysing the previously recorded data set and this talk will highlight some of the most recent results.

During a three year shut-down period, the LHCb detector has been upgraded, aiming at data taking at a higher luminosity and with increased trigger efficiency for a wide range of decay channels. Various changes to the detector were made to reach this goal, including the implementation of a triggerless readout of the full system and the installation of a large-area tracking detector made of scintillating fibres. This presentation will also show first results obtained with the upgraded detector.

Invited Overview Talk T 24.2 Tue 9:30 Geb. 30.95: Audimax

Belle II at the start of Run2 and physics highlights — •Carsten Niebuhr — Deutsches Elektronen-Synchrotron DESY

In Run 1, which lasted from 2019-2022, Belle II at the SuperKEKB electron-positron collider in Japan collected data corresponding to an integrated luminosity of almost 430/fb, about half the data set accumulated by its predecessor experiment, Belle. While the analysis of this data is still continuing, it has already led to a number of world-leading results. In parallel, the accelerator and the experiment have undergone a number of improvements during the first 1.5 year long shutdown (LS1), including the installation of the complete 2-layer pixel vertex detector and several modifications on the accelerator side. These latter measures are designed to overcome some of the performance limitations experienced in the early years of operation of this novel and challenging machine. An outlook on Run 2, which has just started, will be given.

Invited Overview Talk T 24.3 Tue 10:00 Geb. 30.95: Audimax

Overview of the ECFA Detector R&D Roadmap and status of the implementation of its recommendations — •Susanne Kuehn — Esplanade des Particules, 1, CH-1211 Meyrin

The European Strategy for Particle Physics Update recommended that 'Organised by ECFA, a roadmap should be developed by the community to balance the detector R&D efforts in Europe, taking into account progress with emerging technologies in adjacent fields'. This Roadmap which is based on the input of the community and was developed within the Detector R&D Panel, was approved by ECFA and published at the end of 2021. Since then work continued by the involved teams to implement its strategic recommendations, including establishing new Detector R&D Collaborations. In this talk the key findings and recommendations of the Task forces and by this the detector technology areas or cross-cutting activities of the ECFA Detector R&D Roadmap will be presented. Moreover, the implementation of the key recommendations and their status will be highlighted and an outlook to future Detector R&D given.