T 23: Hauptvorträge I

Zeit: Dienstag 11:00–12:10 Raum: Z6 - HS 0.004

Hauptvortrag T 23.1 Di 11:00 Z6 - HS 0.004
Faster, Finer, Stronger, Bigger: New Detector Technologies — •Frank Simon — Max-Planck-Institut für Physik, Munich, Germany

Progress in experimental high energy physics crucially depends on advances in detector technologies to cope with the conditions at the HL-LHC and to fully exploit the possibilities that will be offered by future facilities. This presentation will give an overview over recent developments and trends, from high precision timing and high granularity to radiation-hard detector elements and large instrumented volumes. The primary focus is on accelerator-based experiments, but selected applications in other fields will also be discussed.

Hauptvortrag T 23.2 Di 11:35 Z6 - HS 0.004
Deep learning concepts for particle physics — •Martin Erdmann — RWTH Aachen University, III. Physikalisches Institut A, 52056 Aachen

For two decades, physics analyses have benefited from machine learning using well-founded observables. With new deep learning technique, previously unexplored properties become accessible in data. Higher signal efficiency with identical detector hardware and event simulations with unprecedented speed are evidence of this progress. Various applications of deep learning developed for particle and astroparticle physics will be discussed as well as challenges arising with this new technology.