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CAEN: tools for discovery meet educational labs!

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CAEN S.p.A. is an important industrial spin-off of the INFN (National Institute for Nuclear Physics), since 1979. CAEN brings the experience acquired in almost 40 years of collaboration with the High Energy Nuclear Physics community into the University educational laboratories by providing modern physics experiments based on the latest technologies and instrumentation.

CAEN realized different modular Educational Kits, developed together with the University of Insubria (IT) and University of Aveiro (PT), and a series of experiments with different difficulty level. The Educational Kits, provided with a dedicated Control Software, are modern and flexible platforms for teaching the fundamentals of Statistics, Particles Detection and Nuclear Imaging.

The goal is to inspire students and guide them towards the analysis and comprehension of different physics phenomena with a series of experiments based on state-of-the-art technologies, instruments and methods.

An example of CAEN kit is the EasyPET, a user friendly and portable PET system, designed to explore the physical and technological principles of the conventional human PET scanners. The device uses only two detectors to execute a PET scan, simplifying the set-up to make it accessible to Educational Laboratories.

A Graphic User Interface allows the user to set the acquisition parameters, visualize the reconstructed image in real time during acquisition and perform several didactic experiments related to PET imaging, as well as offline image analysis

Session Classification: Industrial Session