Contribution ID: **38** Type: **Invited (In person)**

Advancements in Power Supply Systems

Wednesday 3 December 2025 17:35 (20 minutes)

This talk explores the latest advancements in power supply technologies designed by CAEN: it will give a quick overview of the EASY power supply system for the High-Luminosity Large Hadron Collider (HL-LHC) upgrades: notable for its enhanced radiation tolerance: up to 150 Gy, 3x10^11 HeH/cmq, 1.5x10^12 Neq/cmq, and resilience to magnetic fields up to 0.6 T.
Furthermore, we will also discuss new research and development (R&D) concerning standard environment power supplies in the most prevalent formats, including NIM, standalone, and CAEN multichannel system.
All these R&D initiatives possess unique characteristics, but they are all driven by the evolution of physics experiments that seek granularity far surpassing current standards. These experiments necessitate sophisticated electronics for powering detectors and processing vast amounts of data. Key parameters such as space constraints, cabling, cooling, and overall efficiency are crucial in designing these experiments to achieve superior data acquisition performance.
During the talk, we will illustrate their characteristics, the R&D process that we have followed and its results, plus underline significant figure of merits.

Author: Dr GIORDANO, Ferdinando

Presenter: Dr GIORDANO, Ferdinando

Session Classification: Session 4