Seminario del vincitore della procedura valutativa a PA ex. art. 24 L.240/2010 SSD FIS/01 SC02A1- Dr. Riccardo Paramatti

Title:

Scintillating crystals in High Energy Physics

Abstract:

Scintillating crystals are widely used in both fundamental and applied physics, e.g. as PET detectors.

The excellent energy resolution, the very fast light emission mechanism, and their resistance to radiation make scintillating crystals an excellent medium for
detectors at the Large Hadron Collider (LHC) at CERN.

In this seminar I will present new precision time detectors using PWO and LYSO crystals to upgrade the CMS experiment for the High Luminosity phase of the LHC.
I will discuss my current and past activities in this area and, in particular, the critical role of the scintillating crystals in the discovery of the Higgs boson.