

1. Record Nr.	UNINA9910659494003321
Titolo	Advanced Radiation Detector and Instrumentation in Nuclear and Particle Physics : Proceedings of RAPID 2021 / / edited by Rajendra Nath Patra
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2023
ISBN	9783031192685 9783031192678
Edizione	[1st ed. 2023.]
Descrizione fisica	1 online resource (124 pages)
Collana	Springer Proceedings in Physics, , 1867-4941 ; ; 282
Disciplina	539.705 539.77
Soggetti	Measurement Measuring instruments Nuclear physics Measurement Science and Instrumentation Nuclear and Particle Physics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	The Practice of Gamma-ray Spectroscopy: Here & Now -- Applications of radiation detectors to society -- From Detector Simulation to Data Analysis in High Energy Physics -- The study of the frequency of bubble oscillation in R-12 superheated emulsion for neutron-gamma discrimination -- Simulations of Multi-Layer GEM Systems from Single to Quadruple GEMs -- A Simulation of Primary Ionization for Dierent Gas Mixtures -- Simulating response of a liquid scintillation detector to gamma and neutrons -- Numerical Evaluation of Resistive Plate Chamber -- Straw Tube Studies and Prototype Assembly for DUNE -- Upgradation of CMS Detector at the LHC with GEM Detector -- FPGA based high speed DAQ systems for HEP experiments: potential challenges -- Gain uniformity of a quad-GEM detector at dierent gas orwates -- Characterization of sapphire detector for CEvNS search at MINER -- Study of neutron response using time of ight technique in ISMRAN detector -- A Compact and Cost eective Data Acquisition

Sommario/riassunto

The RAPID2021 workshop focused on a specific and contemporary research topic: detector technology and electronics for nuclear and particle physics experiments as well as applications. In the RAPID2021, we had invited lectures, overview talks and contributed presentations by the scientists and young researchers from all around the world. In this workshop the papers presented are on the new developments at different experiments (ALICE, CMS, ATLAS) at CERN, new micro-pattern gas detectors development by RD51 collaboration at CERN, development of silicon pixel sensors at CERN, detectors for FAIR facilities in Germany, low energy experiments at different facilities, new detector ideas for nuclear and particle physics experiments, developments in electronics to overcome the challenges for the future LHC experiments, and application of the detectors on medical imaging. The proceedings of the workshop are quite helpful to document the new results, technologies, and developments by different groups and well known international laboratories like CERN, GSI, and Brookhaven National Laboratory. The publication of the scientists and young researchers will definitely be the new references for future studies on the same direction.
