

Session Program

25-29 May 2026

**25th IEEE Real Time Conference - La Biodola,
Elba, Italy**

***Real Time Diagnostics, Digital Twin, Control,
Monitoring, Safety and Security - PS***

La Biodola - Isola d'Elba (Italy)

Tuesday 26 May

11:25

Real Time Diagnostics, Digital Twin, Control, Monitoring, Safety and Security - PS: A

Poster Session | Location: Hotel Hermitage, Elena Room

Development of a Portable Real-Time Radiation Measurement Technology for Digital Twin Based Plant Situation Monitoring

Speaker

HyeoungWoo Park

Enhancements of the central Safety System for Wendelstein 7-X operational phase OP2.4

Speaker

Jörg Schacht

A Low-Dead Time FPGA-TDC for Optical Beam-Loss Monitor System

Speaker

Dr Yuchen Yang

High-Voltage System control for the ICARUS experiment at Fermilab

Speaker

Antonio Gioiosa

Development of algorithms for the end-end system simulation, mode analysis and performance optimization for a generic and multi-tokamak high-frequency magnetic diagnostic system

Speaker

Dr Duccio Testa

UPGRADED CONTROL SYSTEM FOR THE ELECTRON CYCLOTRON HEATING EXPANSION SYSTEM ON EAST

Speaker

Dr Weiye Xu

FPGA-based online monitoring for triggerless readout system in dark matter experiment

Speaker

Dr Stefano Mastroianni

Data Orchestration and Large Model-Driven Interactive Diagnosis for LHAASO Operational Data

Speaker

Huang Li

Distributed Modeling and Simulation Methods for Tokamak Simulation Systems

Speaker

Heru Guo

Deep Fusion Attention Transfer Learning Method for Rotating Machinery Fault Diagnosis Based on Two Stage Neural Network

Speaker
Shaoqing Liu

Design and Implementation of a Distributed Detector Control System for the JUNO Experiment

Speaker
Mei YE

Shape-factor analysis of real-time, in-situ photon-depth spectra for land quality β -emitter assay

Speaker
Kate Williams

The ATLAS Forward Proton (AFP) sub-detector and the adverse effects of radiation from Large Hadron Collider (LHC) collimators during pp-collisions at 13.6 TeV

Speaker
Marko Milovanovic

Low-latency digital control of an all-in-fiber phase noise reduction loop for VIRGO Squeezer

Speaker
Marco Toffano

Electronics for Two-Dimensional Magnetic-Field Measurement in a Polarized-Light Helium Optically Pumped Magnetometer

Speaker
Xuan Wang

Data flow management and service of Lingshu plasma control system

Speaker
jq zhu

12:30

Wednesday 27 May

11:05

Real Time Diagnostics, Digital Twin, Control, Monitoring, Safety and Security - PS: B

Poster Session | Location: Hotel Hermitage, Elena Room

Application of the FPGA Coprocessor TM FAST for Siemens S7-1500 PLCs in Neutron Instruments

Speaker

Harald Kleines

A common framework for real-time structured data communication in fusion devices

Speaker

Dr Nicolo Ferron

AI Enhanced LLRF Controller for Ultra-lightweight SC Cyclotron CYCIAE-100B

Speaker

Tianyi Jiang

A Low-Latency Distributed Machine-Protection System for the PIP-II Linear Accelerator

Speaker

Dr Jonathan Daniel Eisch

Realization of Large Model-Driven Tango Control and Data Interaction Analysis Tool

Speaker

Xiaochuan Xie

Deep Learning-Based Real-Time Error Detection in Radiotherapy with EPID Images

Speaker

Emmanuel Uwitonze

Ion Irradiation facility with Performance Online Monitoring for High Temperature Superconducting Tape

Speaker

xiaofeng zhu

A Virtual Gamma-ray Spectrum Database for Training in Seawater Radioactivity Analysis

Speaker

Wanook Ji

Temperature-Induced Delay Drift in Xilinx FPGA Multi-gigabit Transceivers

Speaker

Yonggang Wang

The Realization of Ultra-High Dose Rate and Potential Frontier Applications on 230 MeV SC Cyclotron CYCIAE-230

Speaker

Prof. Tianjue Zhang

Optimising SiPM Array Architectures and Optical Coatings for High-Efficiency ZnSe(Al,O)-Based Strontium-90 Detection**Speaker**

Ms Arjana Kolnikaj

Design of an Integrated Control System for Automated Operation of Large Array of Imaging Atmospheric Cherenkov Telescope**Speaker**

Ms Si MA

Design and Implementation of a Space Radiation Microdosimetric Detection Prototype**Speaker**

Dr Xiaoyan Gao

Design of Transmission Cable Delay Calibration Method for Large-Scale Electron Accelerators**Speaker**

Mr Haoqian Xu

High-dose-rate precise ionization chamber with real-time electronics for SC cyclotron-based proton therapy system**Speaker**

TIANYI JIANG

Fueling modeling and control for ITER start of research operation**Speaker**

David Weldon

Physics-Aware and Hardware-Efficient Federated Learning for Isotope Identification in Distributed Edge Radiation Networks**Speakers**

Ms Yuxin Wu, Kai Shi

12:05