

Semiconductor sensors development and applications WG-5.2

First General Meeting

Introduction

FAPESP Thematic 2020/04867-2

March 3rd 2023



WG-5.2.1 & WG-5.2.2 : Recap

- WG-5.2.1 : ATLAS High Granularity Timing Detector (HGTD)
- WG-5.2.2 : Low Gain Avalanche Detectors (LGADs) for low energy applications

Details on August 2022 [kick-off meeting](#)

WG-5.2 - Introdução

Reunião Projeto temático em 14/12/2022 :

WG5.2 Workshop early 2023 (January ?)

- All members with EOI in project will have the opportunity to present their plans/schedule
- follow up through indico working meetings during 1st term of 2023 as preparation for the 1st report to FAPESP

Objetivos da reunião HOJE

1. Discutir em detalhes as atividades em desenvolvimento
2. Discutir a integração e otimização das atividades
3. Avaliar os progressos obtidos até o momento
4. Identificar pontos críticos e propor ações em fase com a proposta do projeto FAPESP
5. Definir as metas e planejar as atividades e reuniões para os próximos meses

WG-5.2 - Cronograma Projeto FAPESP

[Sage](#) → [Documentos](#) → [Cronograma](#)

ANO (relatórios em Junho)

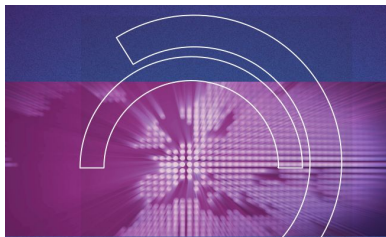
	1	2	3	4	5
5. Instrumentation Research and Development: Semiconductor Detectors					
5.1 Ultra-Fast silicon detectors					
Project and simulation of UFSD and reference pin diode structures	X	X	X		
UFSD single sensor prototype fabrication		X	X	X	
UFSD segmented and AC coupled fabrication				X	X
Characterization and radiation tests of single and segmented sensors and associated electronics		X	X	X	X
5.2 HV-CMOS technology for monolithic sensors					
Development and integration of electronics for UFSD sensor signal processing			X	X	X
5.3 Front-End Integrated Circuits Design					
Studies for a next generation electronics for UFSD			X	X	X
5.4 Radiation Hardness Characterization of Semiconductor Devices					
Setup preparation for TID measurements (protons and X-Rays)	X		X	X	
Project and construction of test setup electronics for heavy ions irradiation of UFSD sensors and ASICs (SEE) at Pelletron facility	X	X	X		
SAMPA irradiations for TID and SEE effects evaluation	X	X	X		
UFSD sensors and ASICs irradiation for TID effects evaluation	X	X	X	X	
Irradiation with neutrons at IPEN reactor and dose effect studies in SAMPA and UFSD sensors and ASICs	X	X	X	X	X
8. ATLAS Upgrade Activities					
LGAD sensor electrical characterization	X	X	X		
LGAD sensor integration in HGTD			X	X	
Peripheral Board Electronics development and certification tests	X	X			
Participation in HGTD modules tests and integration			X	X	X

WG 5.2 : New DRDT3 Collaboration

ECFA Det. R&D Roadmap

the Priorities

"To fully explore the properties of the Higgs boson and study many of the other deepest questions in physics necessitates the development of a roadmap for the required detector technologies."



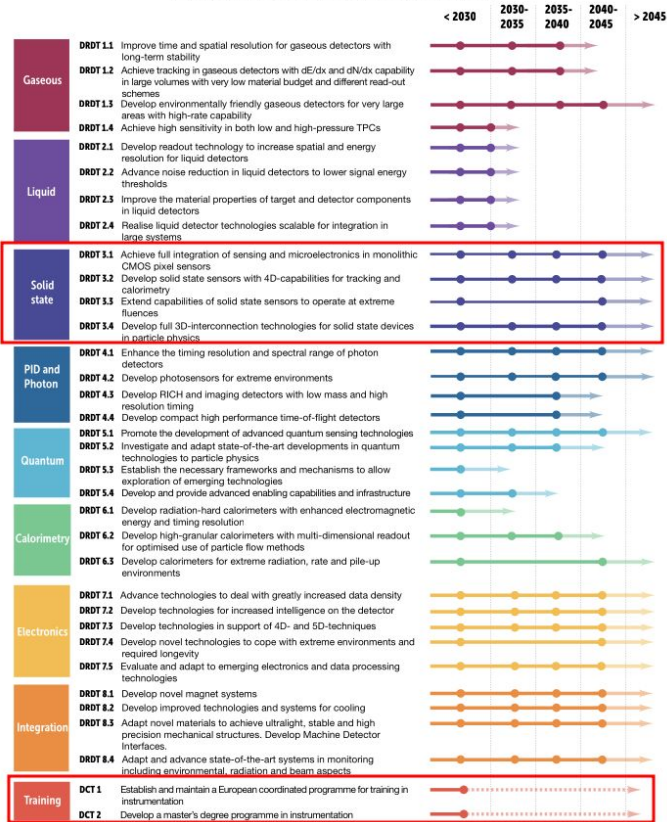
THE 2021 ECFA DETECTOR
RESEARCH AND DEVELOPMENT ROADMAP

The European Committee for Future Accelerators
Detector R&D Roadmap Process Group



ECFA
European Committee
for Future Accelerators

DETECTOR RESEARCH AND DEVELOPMENT THEMES (DRDTs) & DETECTOR COMMUNITY THEMES (DCTs)



Implementation of DRD3 : 22&23 Março 2023

Implementation of TF3 Solid State Detectors

22-23 Mar 2023

America/Sao_Paulo timezone

Enter your search term



Overview

The workshop will be on March 22-23rd at CERN.

Timetable

It is a mixed-mode meeting, in person and remote.

Registration

Please send the DRD3 questionnaire (linked below) by January 27th.

Starts 22 Mar 2023, 05:00
Ends 23 Mar 2023, 14:00
America/Sao_Paulo

Eva Vilella Figueras
Gianluigi Casse
Giulio Pellegrini

Questionnaire DRD3.docx
Questionnaire DRD3.pdf

Gregor Kramberger
Isana Fionde
Ivan Vila Alvarez
Michael Moll
Nicolo Cartiglia

Institutes that have expressed interest (presently 81 institutes filled the questionnaire):

- Austria: HEPHY
- Brazil: USP
- Canada: Carleton/NRC (Ottawa) , SFU, TRIUMF
- Chile: UNAB/SAPHIR, UTFSM
- China: IHEP, Jilin Univ., USTC
- Czech Republic: Charles Univ.Prague, FNSEP CTU, FZU Czech Academy
- Finland: Helsinki/HIP, LUT University of Technology
- France: APC, cppm,ii2p3, LULab, IP21, IPHC, IfrC, CEA, LPNHE Paris
- Germany: Bonn, CIS, Dortmund, Freiburg, GSI, HU Berlin, MPG HLL, MPP Munich, UHH University of Hamburg
- Greece: Demokritos
- India: IITM
- Israel: Tel Aviv, WIS
- Italy: FBK, INFN Bg, INFN CNR Perugia, INFN FL, INFN Pisa, INFN To, Unifi, UniMI, UniParma
- Japan: KEK
- Lithuania: Vilnius University
- Montenegro: University of Montenegro
- Netherlands: Nikhef, PARTREC
- Poland: AGH Krakow
- Romania: NIMP
- Slovenia: JSI
- Spain: CNA, GIE, ETSI-Sevilla, IFAE-ED50, IFCA-Santander, IFIC-Valencia, IGFAE-USC, IMB-CNM-CSIC, ITANN
- Switzerland: CERN, ETH, PSI, UNIGE, UZH
- Turkiye: Istanbul Univ.
- UK: BILPA-Birmingham, Bristol, Brunel Univ, Manchester, Oxford, QMUL, RAL, STFC-RAL
- USA: BNL, FNAL, Los Alamos, SCIPP Univ. of Illinois, Chicago, Univ. of New Mexico, UTK

Registration

You are registered for this event.

See details