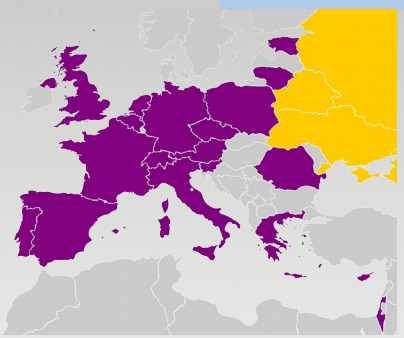
EUROPEAN COOPERATION IN SCIENCE AND TECHNOLOGY

Trans-Domain COST Action

COST Action no. TD1401: Fast Advanced Scintillator Timing

FAST

November 2014 – November 2018



General objectives

- Bridge the gap between sectors, countries and research fields
- Investigate transient phenomena
- Conceive novel techniques towards high time resolution below 100 ps
- Provide a common platform for designing the fastest photodetectors and Application Specific Integrated Circuits (ASICs)

WG 1: Physics, Specifications & Supervision

- Model and optimize detecting chains
- Design the roadmap for coincidence timing resolution towards 10 ps
- Establish interaction between working groups (WG)

Leaders: Paul Lecoq & Dennis Schaart

WG 2: Scintillators

- Define and understand key scintillator parameters for best timing
- Study the response time limits of inorganic scintillators
- Develop novel ideas or exploit new properties of materials for the best possible timing resolution
- Explore the light producing modes prior to standard light generation
- Investigate the mechanical & structural properties of scintillators

Leaders: Martin Nikl & Christophe Dujardin

WG 3: Photodetectors

- Pursue the key parameters of photodetectors for best timing
- Investigate and evaluate the timing of different detector technologies
- Cooperate with industry to reassure feasibility of ideas and methods

Leaders: Claudio Piemonte & Eduardo Charbon

WG 4: Electronics

- Understand key parameters and microelectronics technologies required for time precision better than 10 picoseconds
- Design novel ASICs based on proposed specifications of the Action
- Organize common Multi Project Wafer productions
- Coordinate joint characterisation of prototype devices

Leaders: Joaõ Varela & Christian Morel

WG 5: Applications

- Identify target applications in different scientific domains
- Discuss & evaluate requirements of end users with respect to timing

Leaders: Pedro Almeida & Stefaan Tavernier

Contact details

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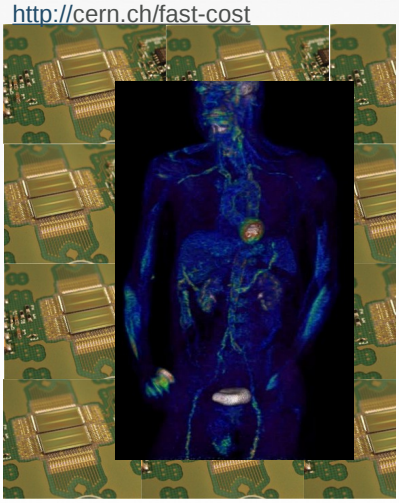

Typical PET/CT image of the human body. Background: Multiple ASIC

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