

TDR

Ernst & Laura

The general idea

- Fully developed detector concept
 - Including mechanics, readout, power, cooling, ...
- Demonstrate the various SVT technologies, if at all possible

Proposed work

WP1: Sensor design (Iain Sedgwick, TBD/TBA)

- Define ancillary chip specs, design, submit
- Continue partnership with ALICE-ITS3 and understand design
- Pending access to DB, initial work on EIC-LAS (RSU and data MUX)

WP2: Sensor testing (Lukas Tomasek, Gian Michele Innocenti)

- Test ancillary chip if available
- Progress testing of ER1

Proposed work

WP3: Electrical interfaces (Marcello Borri, TBD)

- Prototype and data speed on maximum length FPC (~ 30 - 40 cm)
- Progress overall design optimization

WP4: Layers and Disks (Domenico Elia, Georg Viehhauser, Nicole Apadula)

- Conceptual design of layers and disks, including mechanics, cooling, readout, powering, until the electrical/optical interface
- Choice of cooling
- Thermo-Mechanical prototypes of IB, OB, disks
- Support structure within the subsystem how to keep everything together

Proposed work

WP5: Readout and power (Jo Schambach, James Glover)

- Data: Define scheme all the way from VTRX+ at end of stave/disks to FELIX, including possible board half way for further data aggregation
- Slow control/clock: Define protocol for multiplexed transmission to staves/disks (in close collaboration with WP1)
- Test of readout components, readout boards concept

WP6 (Andy Jung, Eric Anderssen)

- Definition of services: cables for power, fibers for signals, cooling, other... (in close collaboration with the project, WP5, DAQ group)
- Definition of SVT support (in close collaboration with WP4)
- Definition of global support and integration sequence (in close collaboration with the project)
- Envelope model

Several Work Packages not covered here

Proposed work

General

- Refine radiation and hit rate estimates
- Detailed detector geometry implementation and simulations
- Organizational aspects,
 - Institute roles etc
 - Schedule
 - Cost
 - Risk
 - ...
- Assembly, installation, and maintenance