WP 9.4 Status

Thomas Bergauer (HEPHY Vienna)

WP9.4 Silicon Tracking

- Creation of a **multi-layer micro-strip detector coverage for the calorimeter infrastructure of Task 9.5** to provide a precise entry point of charged particle

    - The calorimeter infrastructure of task 9.5 will be preceded by **several layers** of Silicon micro-strip detectors to provide a precise entry point **over a large area**.

WP9.4 Deliverables and Milestones

After 1st year:

•MS39: Design of Silicon micro-strip ladders (Milestone; Report) [month 13: March 2012]

In 4th year:

•**D9.5) Silicon micro-strip ladders**: The Silicon micro-strip ladders **are installed in front of the Calorimeter stack delivered by WP9.5**. The **pointing precision and timing performance are characterized**. The devices remain available for the study of the calorimeter performance in case of overlapping showers. [month 39: May 2014]

Baseline Deliverable

Advanced Deliverable

Two orthogonal layers of u-strips

Ultra-light strip layer of thin sensors (230 um)

HPK SiLC sensors	AVP25 based hybrid	Conventional mechanics	Integration with DAQ	Offline software
✓	✓	✓	🚧	✗

Integrated PA or 2D-Poly silicon or short strip sensors.	APV25 based hybrid	Light mechanics with embedded Fiber Optic Sensors	Integration with DAQ	Offline Software

Ivan Vila

WP9.4 Silicon Tracking Contractual Document

- **Finely segmented** and **thin** Silicon micro-strip detectors will be **designed** and **procured** by the participating institutes [OEAW; IPASCR (CUNI)].
  - **OEAW has re-used old SiLC sensors**
  - **procurement**
- In the baseline design the system will be read out by **electronics developed for the LHC experiments** with established performance. [CSIC (IFCA, IFIC, UB)]
  - **OEAW used prototype Belle II readout system**
- For optimal read-out of **long ladders** a **custom IC** with longer shaping time **will be developed** and validated.
  - **UB working on this, not aimed for deliverable**
- Part of the ladders will be equipped with realistic services, including **cooling**, **powering**, **alignment**, structural and environmental **monitoring**.
  - **IFCA working on this, not aimed for deliverable**

Schedule

Introduction	*Thomas BERGAUER*
Prechtlsaal, Vienna University of Technology	*16:30 - 16:35*
Performance of the Silicon Telescope during DESY beamtest	*Wolfgang TREBERER-TREBERSPURG*
Prechtlsaal, Vienna University of Technology	*16:35 - 17:05*
Linux-based DAQ and online analysis for Sitra DAQ	*hao YIN*
Prechtlsaal, Vienna University of Technology	*17:05 - 17:15*
Plans for a EUDAQ Producer for SiTra	*Zdenek DOLEZAL*
Prechtlsaal, Vienna University of Technology	*17:15 - 17:25*
Status IFIC-IFCA	*Ivan VILA ALVAREZ*
Prechtlsaal, Vienna University of Technology	*17:25 - 17:45*
Status Sensor R&D Prague	*Dr. Vaclav VRBA*
Prechtlsaal, Vienna University of Technology	*17:45 - 18:05*
Chip Developement Progress	*Eva VILELLA et al.*
Prechtlsaal, Vienna University of Technology	*18:05 - 18:25*

17:00

18:00