Sensor Technology White Papers

Draft Contributions (draft received)

Next Generation Strip Detectors for the Energy Frontier (D. Bortoletto, M Artuso)
Monolithic Pixel Detectors (M. Battaglia)
Hybrid Pixel Detector Challenges for next GenerationFrontier Experiments
at the LHC (G. Bolla and M. Garcia-Sciveres)
3D Architecture Pixel Sensors (C. Da Via', C. Kenney)
Ultra-fast Silicon Detectors (H. Sadrozinski)
Diamond Sensors (H. Kagan and W. Trischuk)

Solid State Photodetectors (R. Rusack)
Crystal Detectors (Ren-Yuan Zhu)
Development of Large-Area Photosensors for Future HEP Experiments (M Wetstein)
Large Area Picosecond Photodetector (LAPPD) Project (M. Wetstein)

Transition Edge Sensors for HEP (C. Chang)

Low Mass Support and Cooling for Future Collider Tracking Detectors (W. Cooper,
C. Haber and D. Lynn)

 8 promised contributions still missing even as rough draft

Draft contributions already provide important survey of directions for detector R&D activities carried out in the US or with substantial US contribution

Once stable drafts received need community inputs to add missing pieces and ensure fairness

Agreed in discussion yesterday to add to edited document a section discussing applications of HEP sensors and technologies in other fields, need to identify and document a set of examples. This section can be documented in the summary.

(White Papers on instrumentation submitted to European Strategy Preparatory Group provide useful reference and comparison)

Need to discuss with Frontier Capabilities Group the inclusion of detectors and technologies for accelerator instrumentation (diagnostics and monitors)

Define questions to Physics Group relevant to instrumentation and technology R&D :

Scaling of physics reach/precision with detector perfomance:

Some examples for energy frontier:

Statistical precision on H → bb vs. extrapolation resolution at LHC (and ILC)

Tracking capabilities at MuC vs. time stamping

Physics capabilities vs forward acceptance ay MuC

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