

CPAD parallel session on tracking group discussion

Some key questions compiled by
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Fundamentals

- ❑ How is the use of silicon going to evolve in HEP:
 - ❑ HVCMOS?
 - ❑ Thin silicon?
 - ❑ 3D Silicon?
 - ❑ 3D electronics?
 - ❑ Avalanche based detectors?
- ❑ Can we identify a material that can provide an alternative to Si in high radiation environment?
- ❑ How can we enable, integrate, and broaden the scope of the R&D in the US? VLSI R&D collaboration?
- ❑ How the information of timing can be integrated with the position information can be implemented and exploited in various applications? Is the power affordable?

Radiation
resilience
devices for
future
colliders

Systems

- How can we produce tracking devices which are even lower mass?
- How do we build large area, affordable detector systems while maintaining time and space resolution?
- What are the limitations imposed by power delivery and cooling and how might they be addressed?
- Where is the optimum distribution of “intelligence” - on or off-detector?
- How will high rate/low power data delivery (100GB/s) affect detector design