

LG, MS 07/09/2007

Summary of Development Paths for STAR HFT as of 07/09/2007

<u>Date</u>	<u>MimoSTAR Development Path</u>	<u>LBNL Proposed Development Path</u>	<u>IPHC Proposed Development Path</u>
08/2007	Full reticule MimoSTAR4 wafers Delivered	-	-
03/2008	-	Submit LBNL Phase 1 for fabrication	-
08/2008	Install 4 ms MimoSTAR4 based detector	LBNL Phase 1 testing	Mimosa22 + Suze submitted (1/4 reticule)
01/2009	-	-	Begin Development for IPHC Phase 1
08/2009	-	Install LBNL Phase 1 based detector	? Submit IPHC Phase1 sensor (full Reticule)?
08/2010	-	-	?Install IPHC Phase 1 detector?
06/2011	Install Ultimate Detector		

As one can see from the above comparison chart, the development paths have diverged considerably from the previous MimoSTAR standard. One can also see possibilities for a good opportunity for us all.

One of the elements of our development path that is critical is the incorporation of a prototype system at near to full scale. This is required for some of the following reasons;

- Readout of a large system. Crosstalk, power, noise and other issues.
- Mechanical positioning, alignment and support system testing.
- Cooling system testing and performance.
- Tests of low radiation length environment of ladder scale arrays of sensors.
- Development of automated chip testing on large scale.
- Demonstrator system working and giving physics results as project milestone and important to the community.
- Cabling and cable load testing.
- Test STAR DAQ system with significant data volume.

Opportunities exist for possibly receiving the Ultimate sensor up to one year ahead of the schedule if the IPHC development path leading to the IPHC Phase 1 is successful. A question that remains is that of available resources in chip design at IPHC to pursue a path that allows LBNL to receive the sensors required to construct a prototype system at near to full scale. Again, we wish to reiterate that we can offer such resources as we have here to bolster this effort.