

Module Decision - To Do List

- By pixel meetings associated with February 22-26, 1999 ATLAS week
- Beyond making and testing flex and MCM-D modules.... assume this will address electrical performance issues including comparison of
 - efficiency
 - threshold uniformity
 - noise
 - decoupling requirements
 - etc
- Comparison of performance in the gap region between chips with flex and MCM-D options

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- Layout
 - Compatibility of MCM-D with disk support ring(longer module is problem - how bad) -> David B.
 - Sensitivity of disk layout taking into account changes in width of MCM-D module -> David B, Karl-Heinz
 - Monolithic shingled stave layout update since TDR -> Leo
 - Sensitivity of barrel layout to changes in width of MCM-D module -> Leo
- Material
 - Update TDR needed? Gil, Karl-Heinz and Leo to check
- Irradiation
 - Irradiate flex with components(but not MCC) to 25 Mrad with Cobalt - Gil
 - What else is realistic for MCM-D? Single chip????

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- Mechanics
 - Bias connection to MCM-D. Is “from backside” feasible particularly for disks? -> David B., Marco
 - Implications of backside chip ground connection for both flex and MCM-D? -> David and Marco and Karl-Heinz
- Sensors
 - Any quantitative comparison possible regarding sensitivity to being near edge of wafer? -> sensor group discussion
 - Assessment of schedule impact on 2nd prototype fabrication of decision by February - sensor group
 - Wafer warpage measurements for MCM-D, implications for thinner wafers - Peter
- Module connections
 - Worst case comparison of single cable power connections and optical connections to each module with strain relief - at least concept drawings for both flex and MCM-D. Karl-Heinz, Leo, Gil
 - Is MCM-D compatible with indium bumps (pressure during flip chip). Is there any way to tell? -> Karl-Heinz and Leo
 - Measure MCC temperature - Genoa
 - Evaluate temperature cycling effects for both flex and MCM-D. Includes measurements and estimates. Rusty and Karl-Heinz

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- Cost estimate
 - Do better job on flex cost estimates -> Rusty and Leo
- Yield modeling
 - Propose to develop framework(spreadsheet) of yield model for module construction including all steps(as best we know them) to assess sensitivity to yield assumptions(including wire bonding) - Gil, Jean-Claude, + anyone else that is interested.
- 1999 schedule
 - If chosen in February, what is the realistic prototype plan for
 - flex - Rusty, Giovanni,
 - MCM-D - Karl-Heinz
 - with emphasis on meeting constraints from electronics, detectors...