

## **CMS Upgrade MB Response to SLHC Proposal:**

### **08.02: R&D project to develop materials, technologies and simulations for silicon sensor modules at intermediate to large radii of a new CMS tracker for SLHC – F. Hartmann & D. Eckstein**

It is our intent to recommend this proposal for approval. Please see the comments from the referees.

Specific requests before final approval are:

1. Explain the relation of this project to other tracker R&D in CMS and ATLAS and how common projects might evolve.
2. Please provide more details on the plans for work on bump-bonding R&D, the experience of group members in this technology and collaboration with the Readout Working Group.
3. Explain how the power and cooling would be separated off-detector.
4. Explain the collaboration planned with the Power Working Group.
5. Please provide some details on the sensor thickness envisioned in this proposal.
6. Please provide some information on the safety implications of using a large CO<sub>2</sub> system.
7. Please comment on the magnetic force on the cooling pipes carrying the current loads envisioned and the consequences for the material budget to withstand this force.
8. Please explain how the absence of sense lines is compatible with the voltage drop and current variations when the electronics is configured.
9. Since the proposal has a large scope, please indicate the priorities of the activities and opportunities for collaboration to address some of the R&D issues.