# Dear Michael,

we have discussed the form of our partecipation to the new RD project. The basic resulting statements are:

- We are heavily involved with the CMS tracker modules construction (assembling, bonding, electronic test). For this reason we cannot give a big contribution (in terms of manpower and time) to RD activities. Anyway, research work in this field will be proposed to undergraduate or PhD students.
- We are interested in following the new RD project, mainly for what concerns silicon microstrip detectors: our short term program is to complete Valeria Radicci PhD work on annealing studies and surface damage (addressing the still debated question of interstrip capacitance and detector noise; at the moment our and Gianluigi's results are not compatible ...), and go on with CCE measurements. For these studies devices and test structures from CMS production can be used.
- We can contribute with around 4000 Euro for buying additional material, devices, for paying external measurements (SIMS,...) etc.

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### Group members, which will work on the project:

Donato Creanza, Mauro De Palma, Valeria Radicci

## Interests in the collaboration:

- Defect engineered silicon
- Basic studies related to irradiation of detectors with different particles and under different conditions
- Effects on full size silicon microstrip detectors performance

#### **Present activities:**

CMS tracker modules construction (assembling, bonding, electronic test). Radiation damage studies on silicon microstrip detectors: bulk and surface damage studies, initial resistivity and crystal orientation dependence; CCE and annealing studies. For these studies devices and test structures from CMS production can be used.

### **Resources:**

- Clean room
- Fully automized assembling station, bonding machines
- Automatic and manual probe stations for CV (HP4284A), IV (HP4142B) electrical characterization
- Mitutoyo tridimensional micrometric measuring system
- DAQ system for electronic test on silicon detector modules