

December 5, 2012

# Silicon Track Organization

- The Silicon Track will handle 16 students each day (except for the first and last days of the program where it will handle only 8)
- Students are divided into groups of four: two groups for day 1 and two groups for day 2
- The four groups are rotated among 8 different activities so that each group of four students participates in all the activities in the course of two consecutive days (see schedule)
- Each activity takes place at a different station. Students move between stations, activities stay at the same station
- The two groups of day 1 (8 people) gather in the same room (meeting room 1) for the lectures and debriefing. The same happens for the two groups of day 2 (meeting room 2)

# Stations

## **ST1 - LabD probe station**

This station has a probe station, a voltage source, a picoammeter and a LCR meter. We will need to do 32 tests. Including some damage to some of the diodes. We believe that ~10 should be sufficient. We will need to have the probe station equipped with a thermal chuck.

## **ST2 - Laser station**

This station is equipped with strip detector connected with a DAQ that is capable to synchronously pulse a laser and show results. The station should have its own LV and HV power supplies, furthermore it should have the capability to move the laser (either manually or better with some step motors). The laser pulser should have the capability to set a delay for the timing scan. DAQ: one D0-SVX4 system

## **ST3 - Source station**

This station is equipped with a pixel detector connected with a DAQ and a radioactive source. The station should have its own LV and HV power supplies

## **ST4 - LabD CMM**

We will need access to a high magnification microscope and the availability of some technician to perform some precision mechanical placement/measurements on a CMM and some planarity measurement

## **ST5 - Wirebonder**

We will need access to high magnification microscope and the availability of some technician to bond wires on demand

## **ST6 - Desks**

8 desks to seat 16 people in groups of 2

# Activities

Activity 1 - ST1 - LabD probe station - IV-CV measurements - 90 min

Activity 2 - ST2 - Laser station - Charge collection time measurements with laser - 120 min

Activity 3 - ST3 - Source station - Interaction of particle with silicon - 120 min

Activity 4 - ST4 - LabD CMM - Metrology - 45 min

Activity 5 - ST5 - Wirebonder - Inspection and interconnection - 45 min

Activity 6 - ST6 - Desks - IV-CV data analysis - 60 min

Activity 7 - ST6 - Desks - Laser data analysis - 60 min

Activity 8 - ST6 - Desks - Source data analysis - 60 min

# Schedule - Day 1

Time	Student 1-4	Where	Student 5-8	Where
9:45 AM				
10:00 AM	Lecture	Meeting room 1		
10:15 AM				
10:30 AM				
10:45 AM				
11:00 AM			Metrology	LabD CMM
11:15 AM	IV-CV measurements	LabD Probe ST		ST4
11:30 AM		ST1		
11:45 AM			Inspection and interconnection	Wirebonder
12:00 PM				ST5
12:15 PM				
12:30 PM				
12:45 PM	Lunch			
1:00 PM				
1:15 PM				
1:30 PM				
1:45 PM	Metrology	LabD CMM		
2:00 PM		ST4	IV-CV measurements	LabD Probe ST
2:15 PM				ST1
2:30 PM	Inspection and interconnection	Wirebonder		
2:45 PM		ST5		
3:00 PM				
3:15 PM	IV-CV data analysis	Desk		
3:30 PM		ST6		
3:45 PM				
4:00 PM				
4:15 PM	Debriefing	Meeting room 1		
4:30 PM				
4:45 PM				
5:00 PM				
5:15 PM	Theory for day 2	Meeting room 1		
5:30 PM				
5:45 PM				
6:00 PM	End of day 1			

# Schedule - Day 2

Time	Student 1-4	Where	Student 5-8	Where
9:45 AM	Lecture	Meeting room 2	Lecture	Meeting room 2
10:00 AM				
10:15 AM				
10:30 AM				
10:45 AM				
11:00 AM	Source measurements	Source station ST3	Laser measurements	Laser station ST2
11:15 AM				
11:30 AM				
11:45 AM				
12:00 PM				
12:15 PM				
12:30 PM				
12:45 PM	Lunch			
1:00 PM				
1:15 PM				
1:30 PM				
1:45 PM	Source data analysis	Desk ST6	Laser data analysis	Desk ST6
2:00 PM				
2:15 PM				
2:30 PM				
2:45 PM				
3:00 PM				
3:15 PM	Laser measurements	Laser station ST2	Source measurements	Source station ST3
3:30 PM				
3:45 PM				
4:00 PM				
4:15 PM				
4:30 PM				
4:45 PM	Laser data analysis	Desk ST6	Source data analysis	Desk ST6
5:00 PM				
5:15 PM				
5:30 PM	Debriefing	Meeting room 2		
5:45 PM				
6:00 PM	End of day 2			