

Recent ST sensor studies

Slides provided by A. Affolder

TSC 200

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Sensor Groups

- **Three Sets of Sensors Probed**
 - Old OB2 (Week 47 2001 to Week 21 2002)
 - 75 Sensors
 - Old OB1 (Week 43 2001 to Week 2 2002)
 - 31 Sensors
 - Newer OB2 (Week 38-41 2002)
 - 97 Sensors
- **Environmental conditions tightly controlled**
 - Temperature 23.1-23.8 C
 - RH < 30% at all times



IV Probing Results

Probed Current @ UCSB (400 V) – QTC Measurement (400 V)

Sensors	> 2 μA	> 5 μA	>10 μA	>20 μA	>100 μA	< -2 μA	<-5 μA	<-10 μA
Old OB2	15%	9%	8%	5%	1%	8%	3%	1%
Old OB1	6%	3%	3%	3%	3%	3%	0%	0%
New OB2	3%	3%	0%	0%	0%	2%	2%	0%

- **An increase greater than 5 μA can cause common mode noise**
 - Rate of CMN problem consistent with percentage of old OB2 sensors with a 5 μA increase
- **Agreement much better with new OB2 sensors!!!!**
 - *(Produced Week 38-41 of 2002)*
 - Factor of ~4 decrease in the rate of higher (and lower) current measurement at UCSB relative to old OB2 sensors