GLAST DETECTOR TESTS

QA of 4" HAMAMATSU PROTOTYPE TOWER Si SENSORS

Careful: use gloves
use vacuum tip to handle detectors
avoid contacts with metal

Standard Measurements to be performed:		Set of sensors
1. Measurements of dimensions		
1.1	check number	all
1.2	visual inspection both sides (scratches etc)	all
1.3	mechanical dimensions	
1.3.1	overall outside dimensions @ 4 corners	all
1.3.2	distance of bias line - edge at 3 places per edge	all
1.1.3	strip pitch, implant width, internal dimensions	1/batch
2. Measurements of bulk electrical properties		
2.1	i-V curve to 300V (3 contacts)	all
2.2	C-V curve at 10kHz	all
3. Measurements on all strips		
3.1	current at 150V and 200V	all
3.2	chack for bad coupling capacitor up to 30V	all
4. Measurements on few selected strips		
4.1	interstrip capacitance as a function of bias	1/batch
4.2	interstrip isolation	1/batch
4.3	coupling caps	1/batch
4.4	bias resistors (both sides, center)	1/batch
4.5	resistance of Al metal	1/batch
4.6	resistance of Al bypass strip	1/batch
5. Measurements with read-out		
5.1	check that bypassing works on shorted capacitor	once
5.2	noise	few
6. Radiation Measurements with ^{60}Co in steps of 5, 10, 20kRad		
6.2	Repeat Measurements 2.1, 2.2, 3.1, 5.2 after every step	few
6.2	Repeat 2.1, 2.2, 3.1, 3.2, 4.1, 4.2, 4.3, 4.4, 5.2 after 20kRad	few