



AGH Univ.of Science and Technology, INPAS  
Cracow,  
TAU, Tel Aviv,  
DESY, Zeuthen

September 1, 2008

DESY

## Milestones and deliverables VFCAL

Silicon sensor production:  
(prototype) mid 2009

Laser Positioning System: prototype available end 2008

Sensor test facilities ready: end 2008

readout electronics ready: end 2008

Test of readout electronics: mid 2009

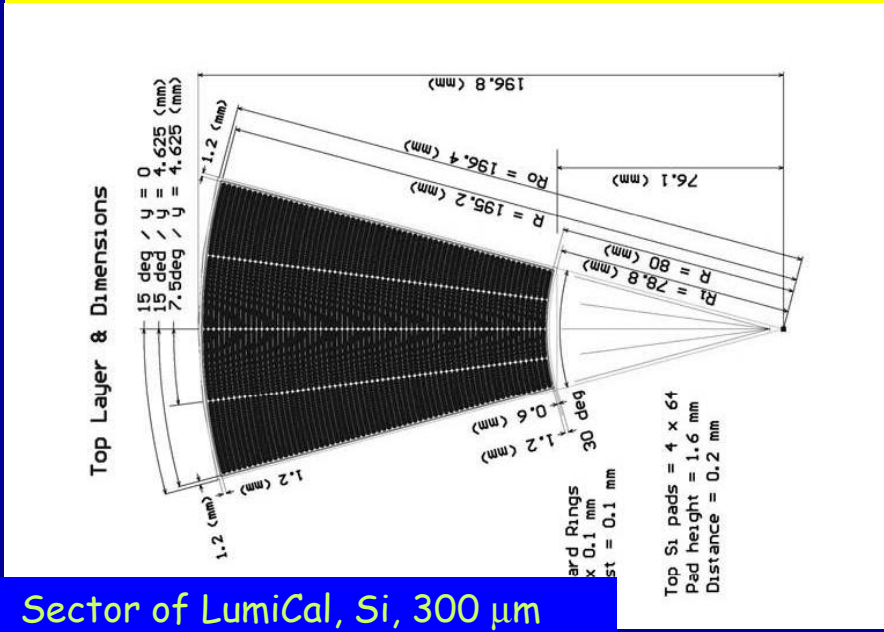
Silicon sensor design and production:

MC design studies are finished

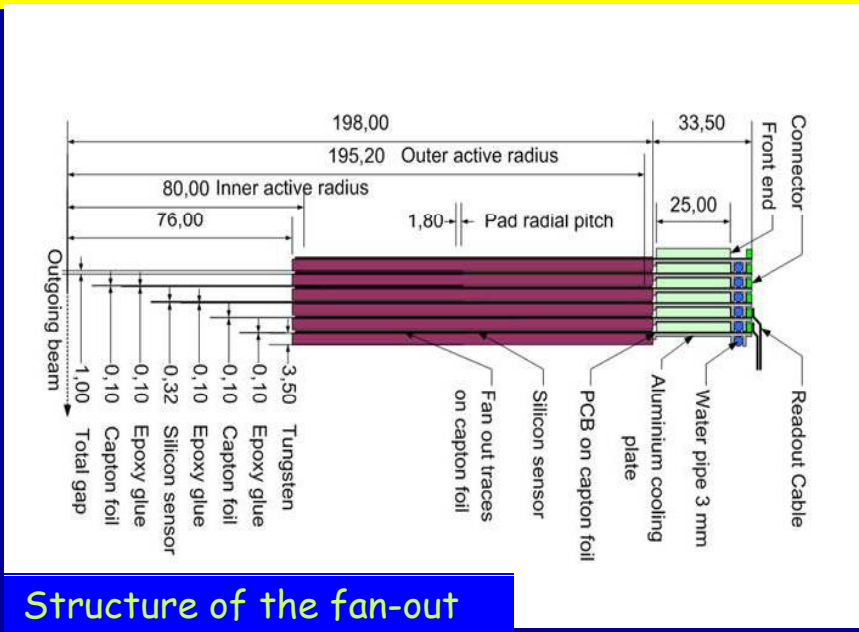
Masks are produced (and paid)

Sensor order will go out (joint effort by INPPAS, DESY, Tel Aviv)

Fanout is designed



Sector of LumiCal, Si, 300  $\mu$ m

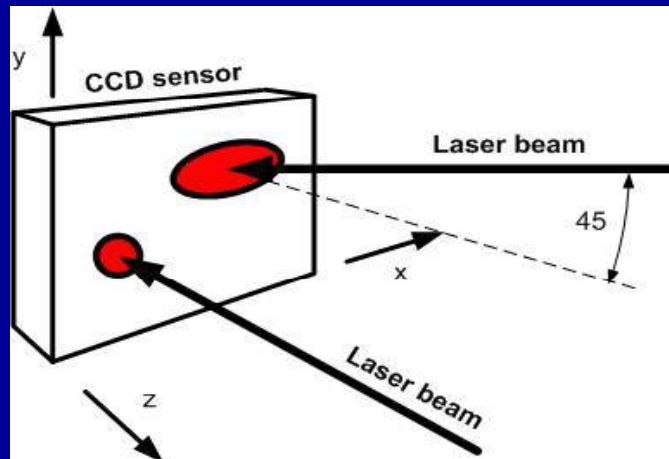


Structure of the fan-out

Laser positioning system: A lab, testbench is built, several improvements in 2008

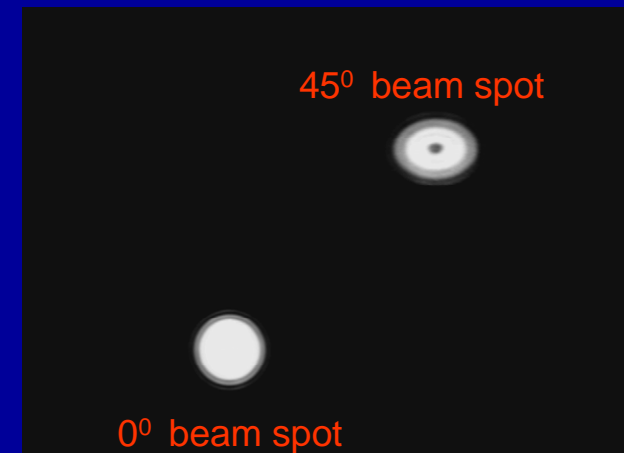
- new semiconductor laser
- new focusing optics
- thermal stability studies, improvements
- miniaturized CCD sensors in preparation, installation before end 2008
- ongoing simulations of the opto-geometrical system

EUDET report end 2008



Principle of position monitoring

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Laser spots as measured by a CCD sensor

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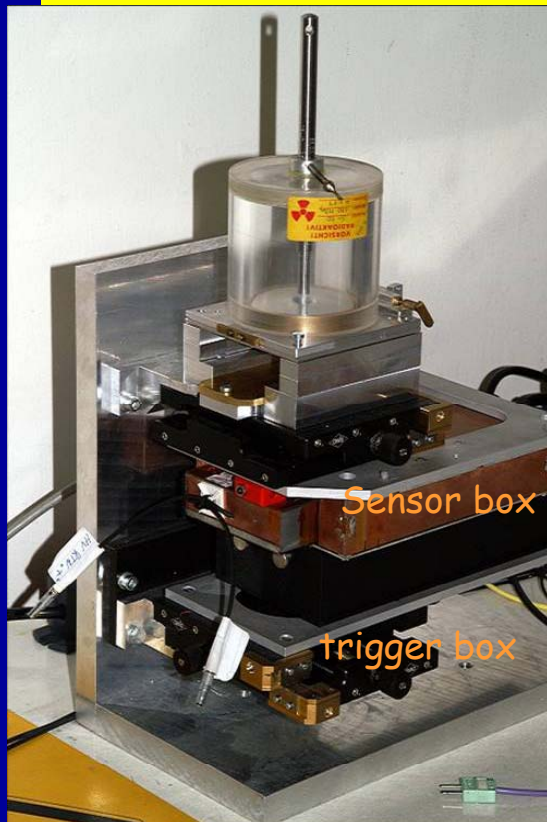
Sensor test facilities: Automatized test facility for IV characteristics of sensors (under nitrogen atmosphere)

two test benches for sensor studies with mips from  $^{90}\text{Sr}$ .

test facility (mechnics, electronics, DAQ) for beam-tests

test-benchs for FE electronics (Cracow, DESY)

installation and upgrade of prob-stations (DESY, Tel Aviv)



Sensor box

trigger box

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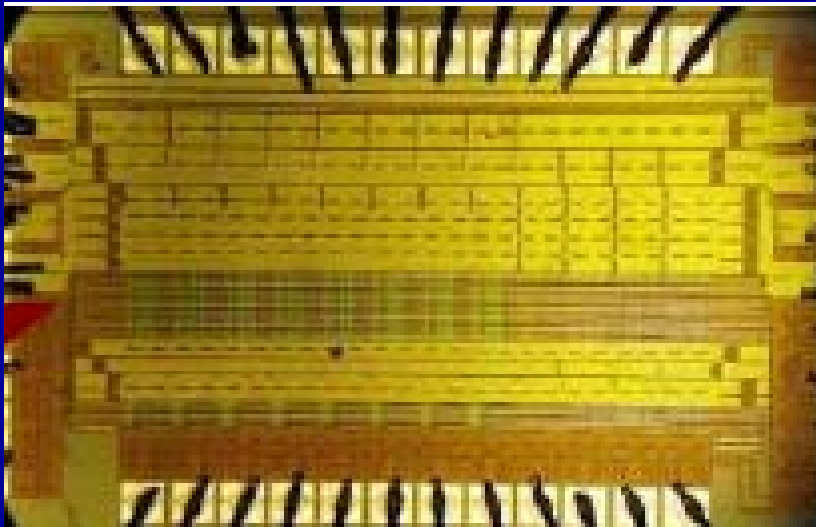
Sensor

FE ASIC

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FE ASICs: first design finished, prototypes of preamp & shaper and separate ADC's are produced, just under test submission of a (more complete) ADC these days

FE ASIC prototype, bonded to the test board



ADC (core) prototype

