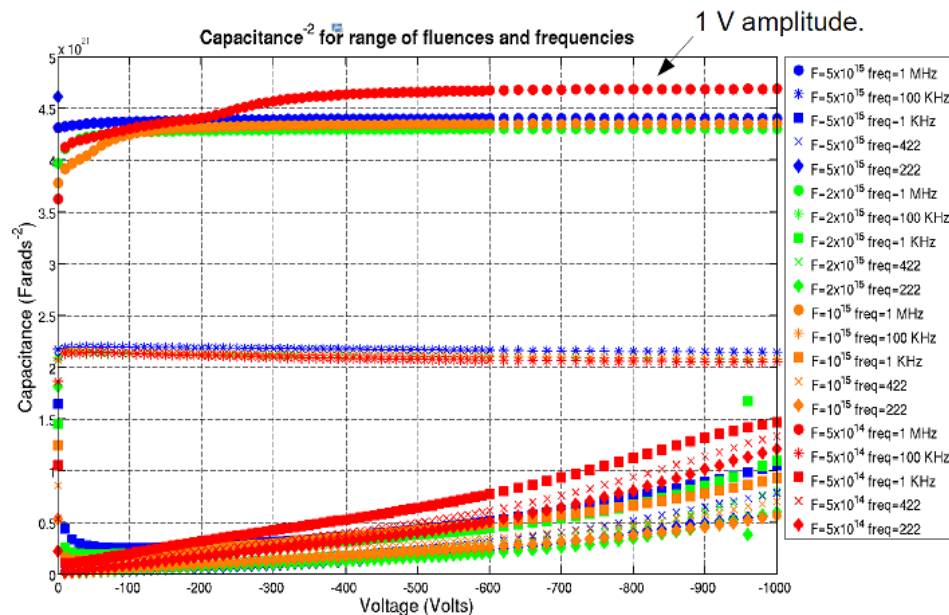
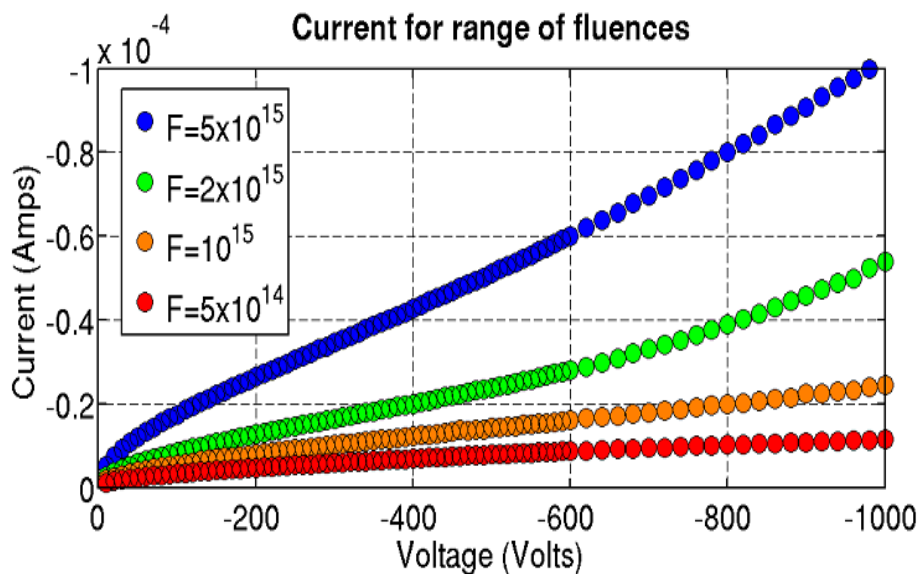


Charge Collection Efficiency Measurements

Alexander Morton
ATLAS12 Meeting
DESY, 16/01/2014

The ATLAS12 Sensors

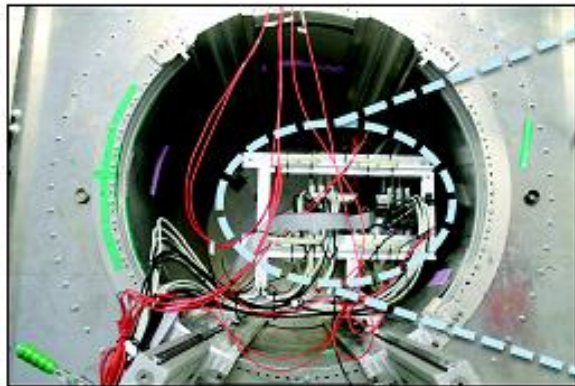
- Bulk characteristics determined at -20 degrees for all sensors.
- Data taken with a range of fluences and after annealing
 - 0, 5×10^{14} , 10^{15} , 2×10^{15} , 5×10^{15} , 1 MeV Neutron Equivalent per cm^2
 - Annealing 60 degrees for 80 minutes



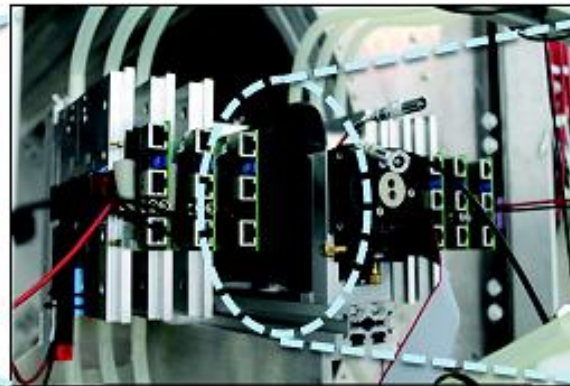
Testbeam Setup

> DESY testbeam

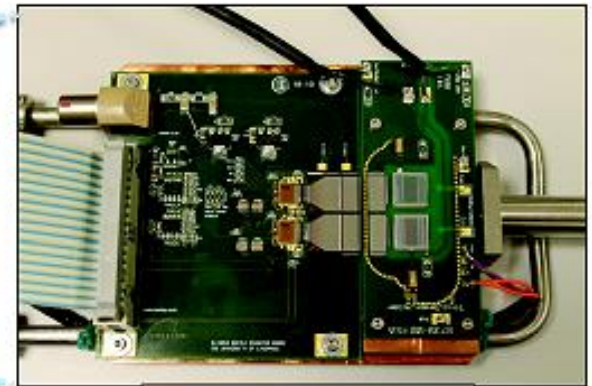
- 4.4 GeV electron beam.
- All sensors cooled to -25 ± 2.5 degrees
- Setup placed inside 1 Tesla magnet.
- Magnetic field set to zero for CCE measurements.



PCMAG



EUDET beam telescope

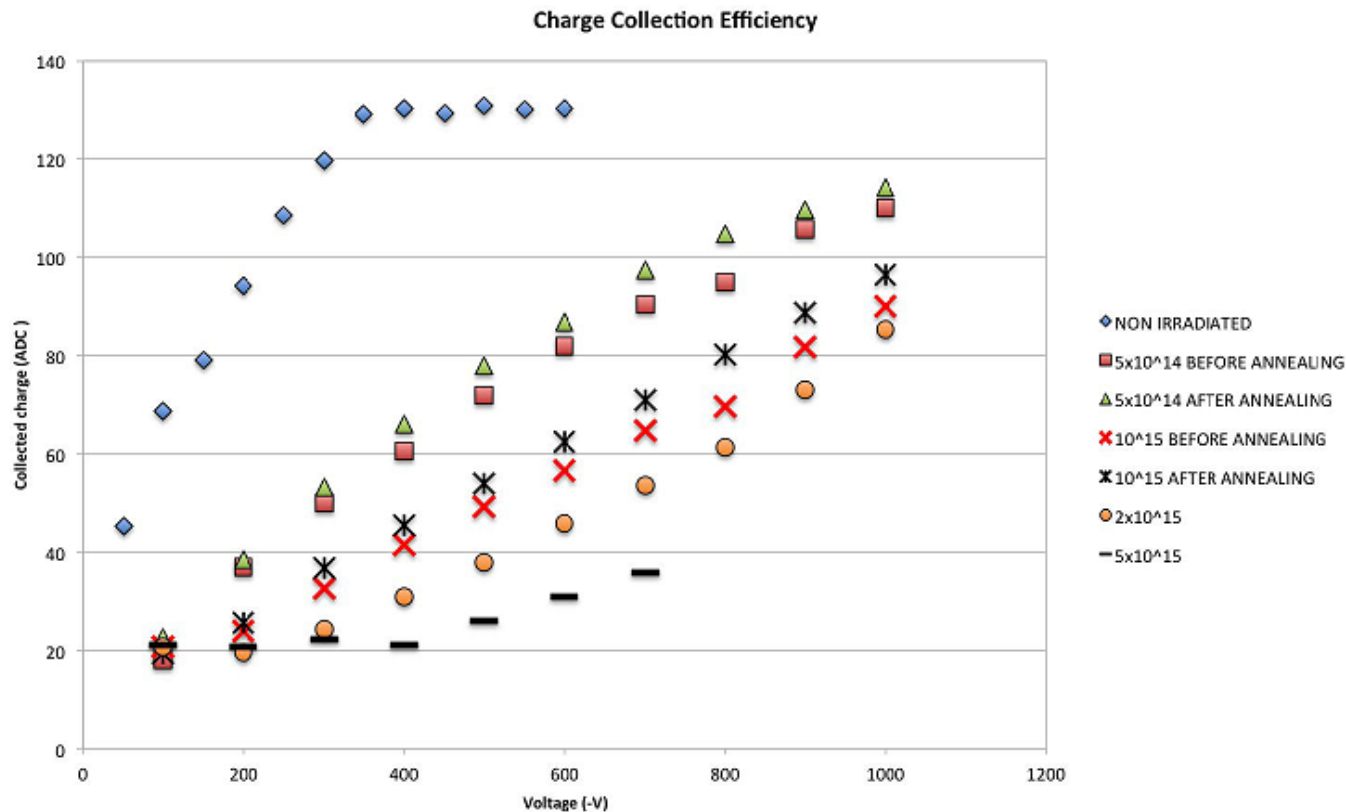


Device Under Test

Results

➤ These are preliminary results only.

- No tracking has been used yet.
- Algorithm used to form clusters must also be altered.



- > Testbeam in February
 - Anneal highly irradiated sensors if time permits.
- > Use correlated hits from telescope to reduce noise.
- > Use data with magnetic field
 - Have a better estimation of the energy of the beam.
 - Determine how incidence angle of track affects CCE.
- > Will also receive new ATLAS12 and ATLAS07 samples
 - Source tests will be carried out on samples.
 - Comparison of testbeam and past results will be made with new data.

