Comparison of

- Diamond irradiated at IRRAD facility by TOTEM
- Diamond plane 8 after 1 year in LHC sector 56 as part of CT-PPS
- Unirradiated diamond (for MIP spectrum)
- MCP (for time resolution)

Measurements of

- MIP spectrum for all channels for heavily irradiated diamond
- Time resolution for selected channels

We are happy with the data and are currently busy analysing it
Nicolo Cartiglia, INFN, Torino

Totem – CT-PPS beam test

Ultra-Fast Silicon Detector (UFSD):
3 different set-ups

1) Test of custom ASIC chip TOFEE for UFSD readout (3 planes) of 8 strips

2) Study of CT-PPS timing plane with UFSD (as those now installed in LHC)

Hit map

Traditional silicon detector

Low gain avalanche detectors

~ $10^{16}$ N/cm$^2$

n++

p++

n-in-p

n-in-p

p

p

n++

p

n-in-p
Totem – CT-PPS beam test

3) First Hamamatsu produced UFSD. 1 mm^2 sensors, 4 planes

Lot's of good data to be analyzed; excellent beam conditions and support.

Resolution: 45 ps