

MAPS Simulation Status

5th October 2006

MAPS meeting at Rutherford Appleton Laboratory

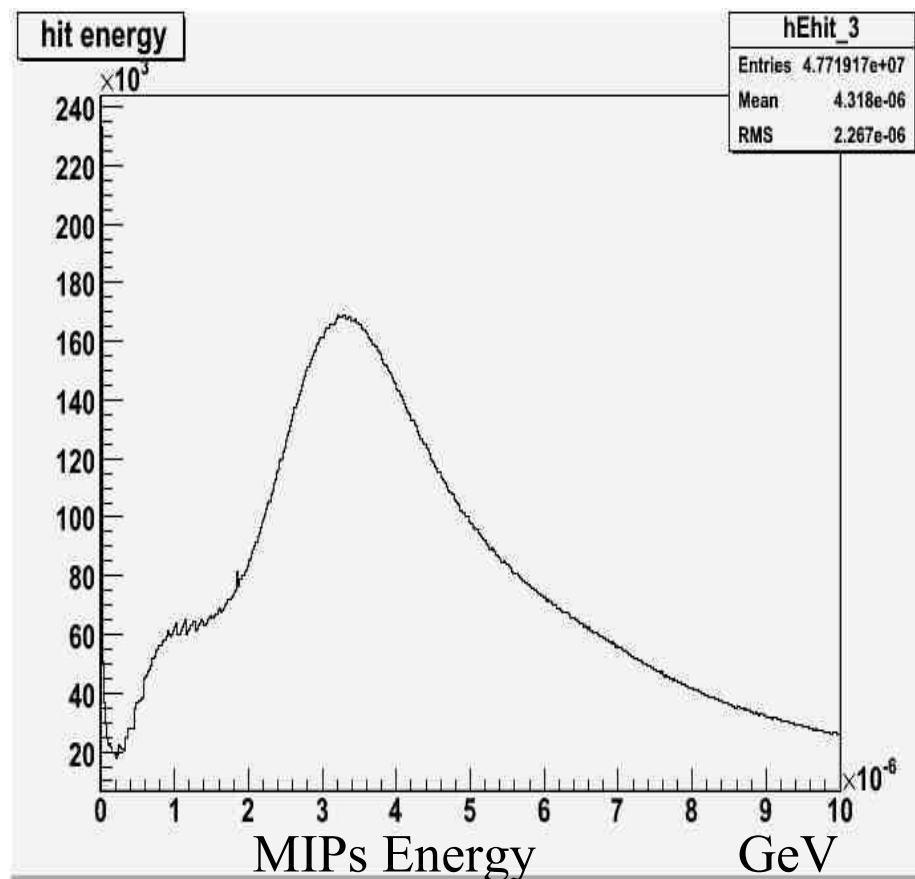
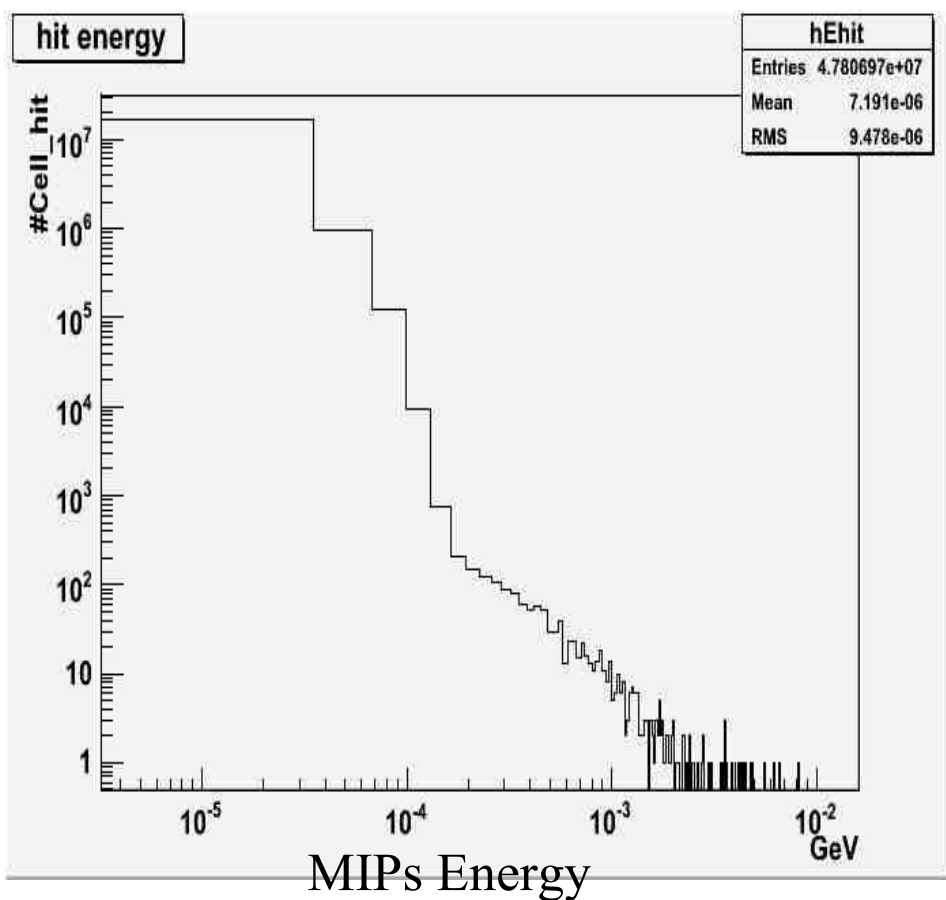
Yoshinari Mikami

University of Birmingham

- Contents
 - Energy deposit distribution
 - 48 contiguous cells hits pattern

Energy Deposit of Cell hits

- 15 μm Si sensitive thickness
- 50 μm x 50 μm cell size
- 100 GeV single electron

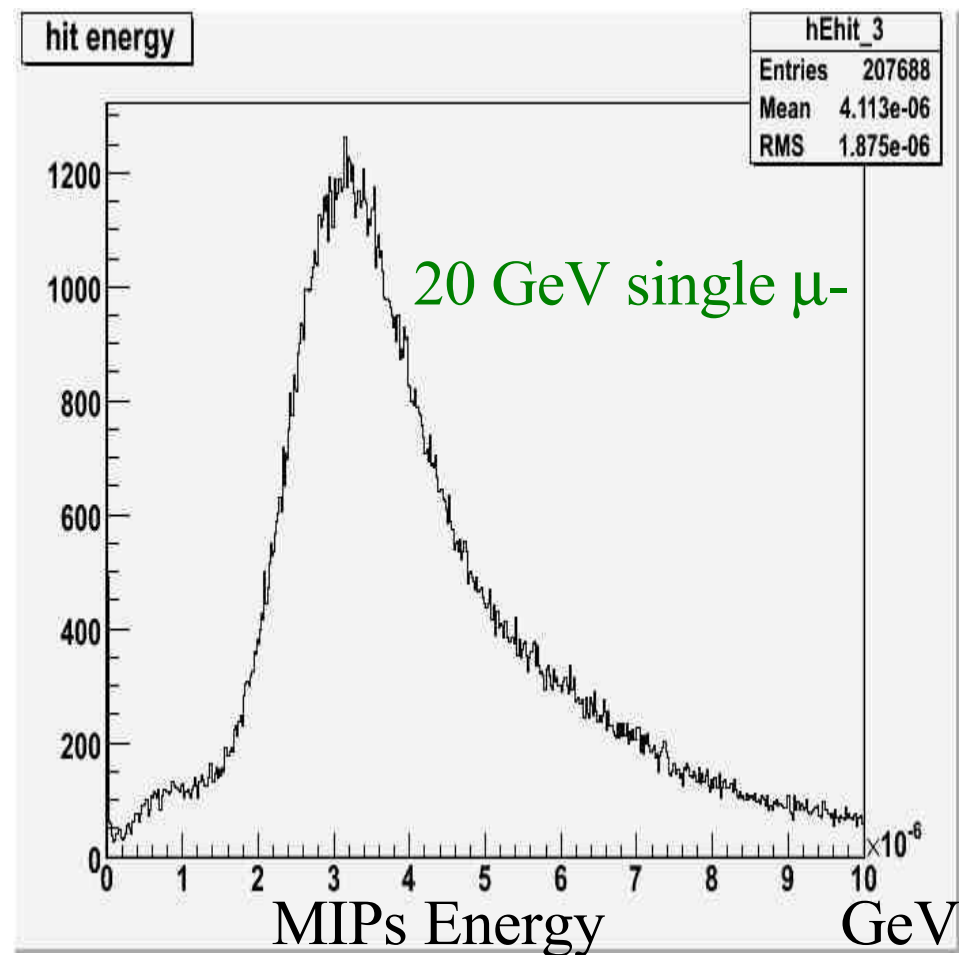
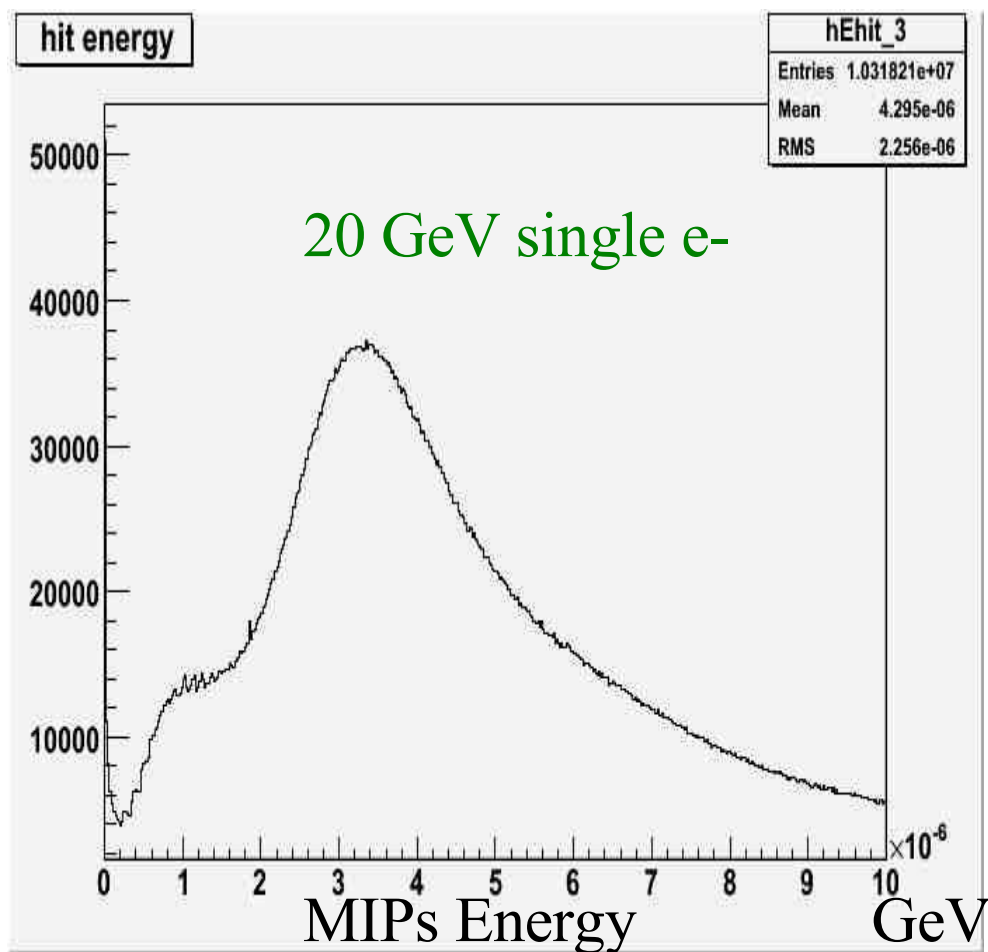


~3.5 KeV MIPs peak

Energy Deposit of Cell hits

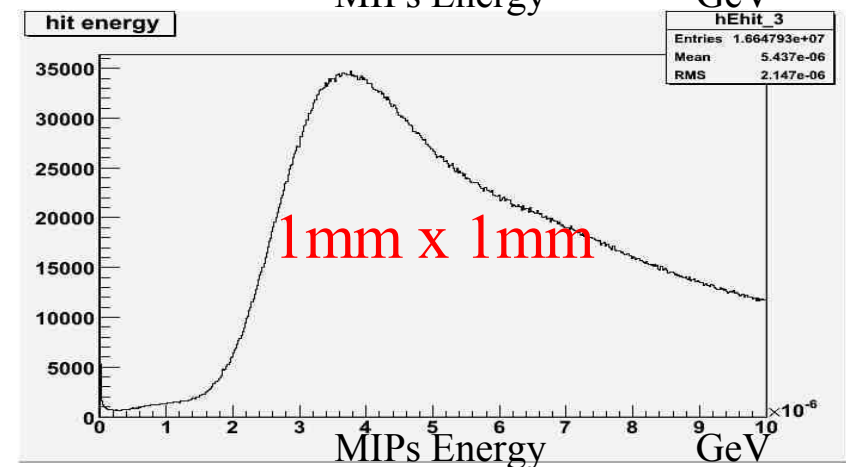
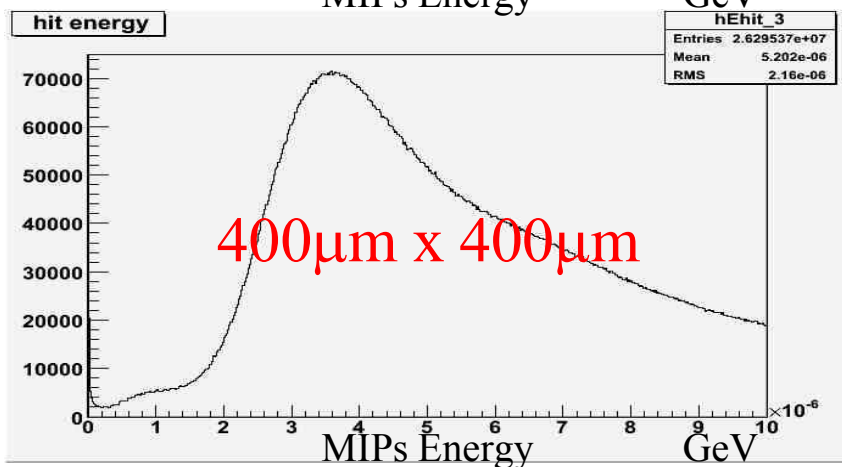
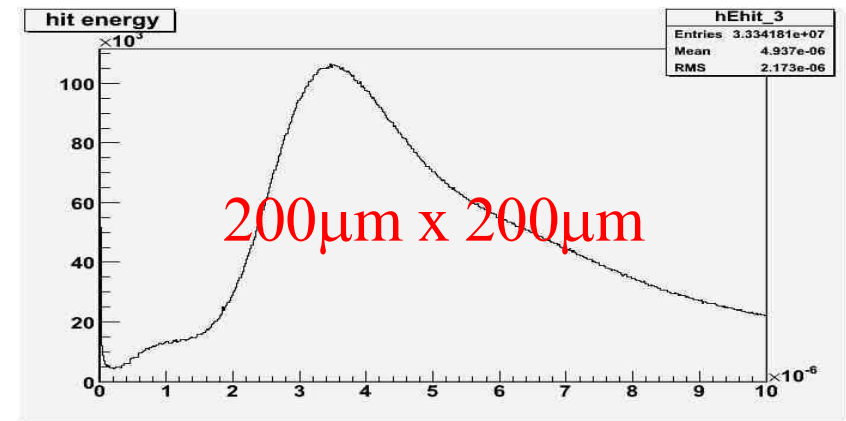
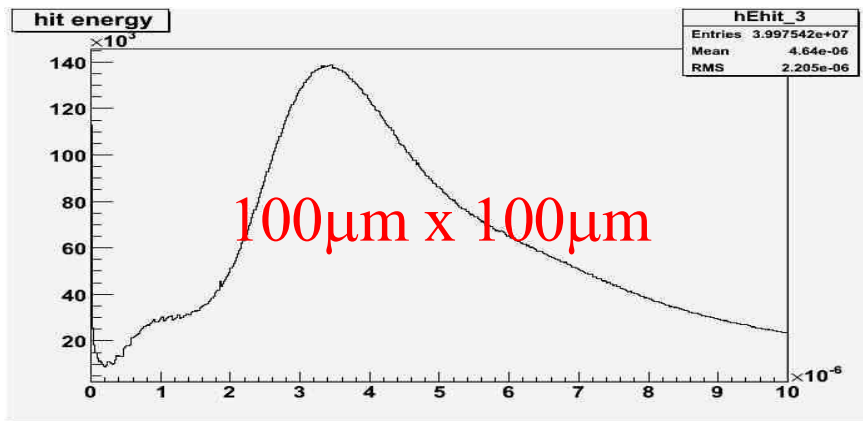
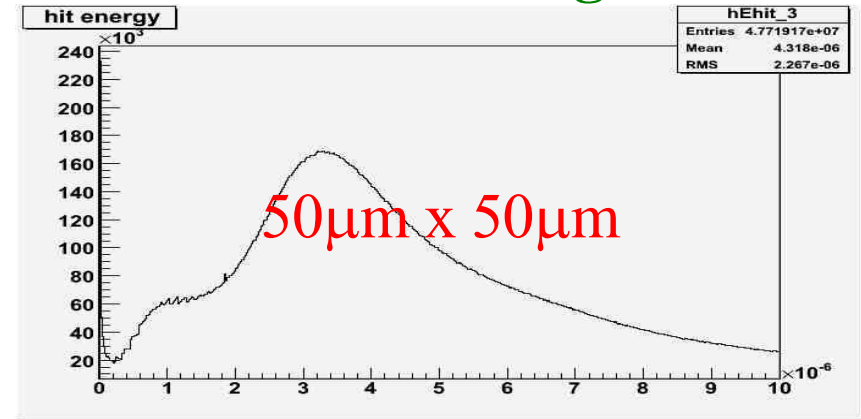
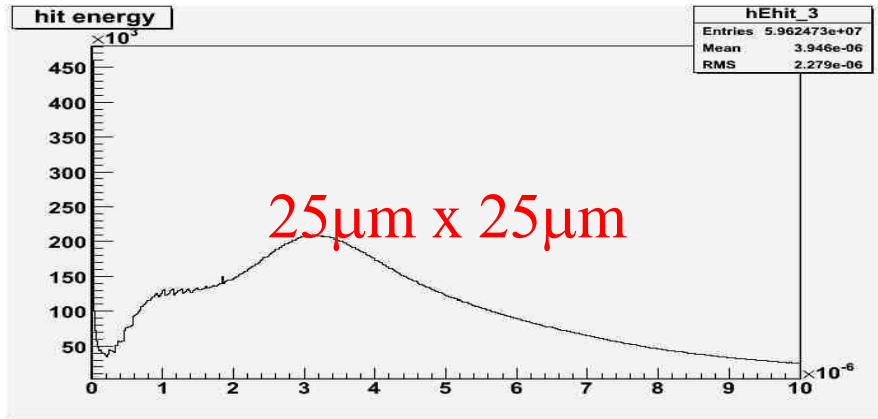
-15 μm Si sensitive thickness

-50 μm x 50 μm cell size

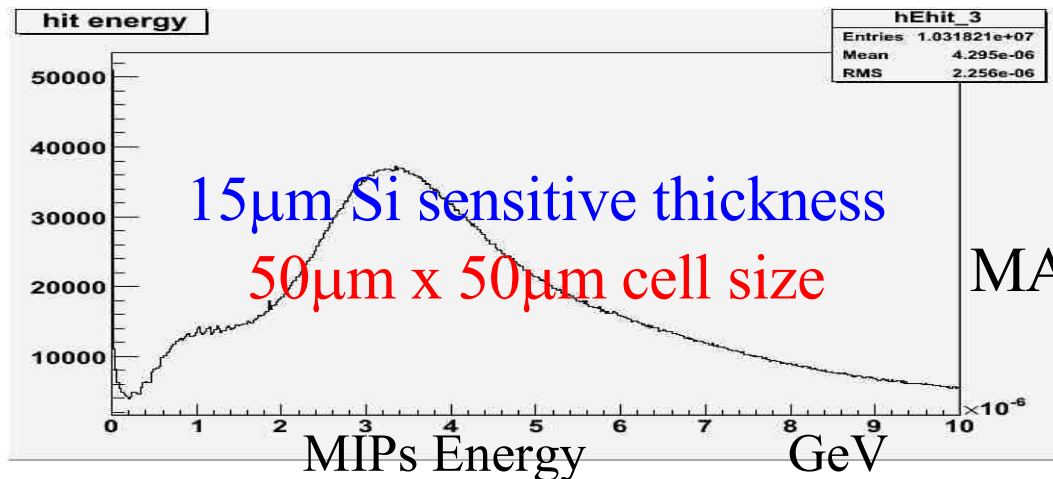
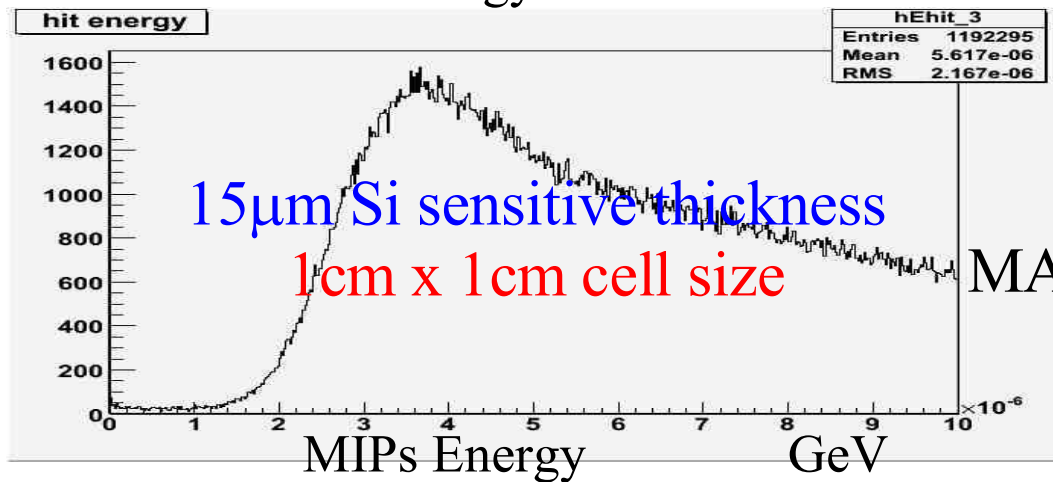
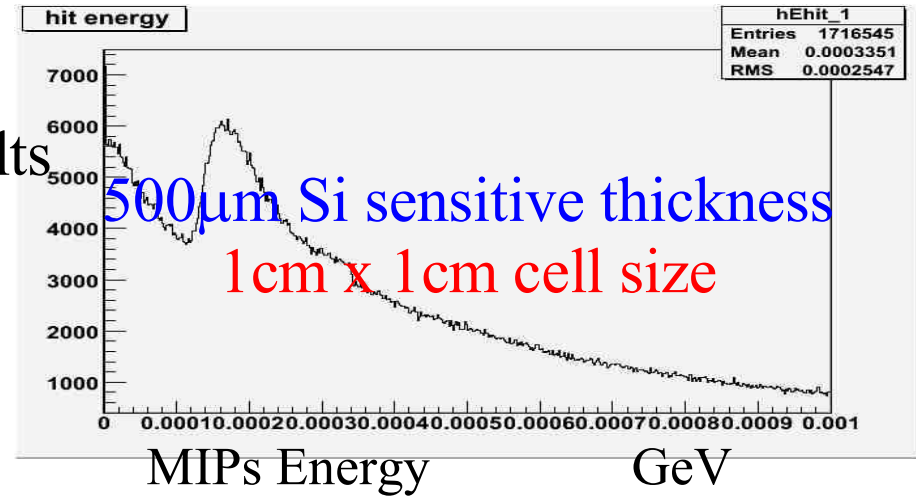
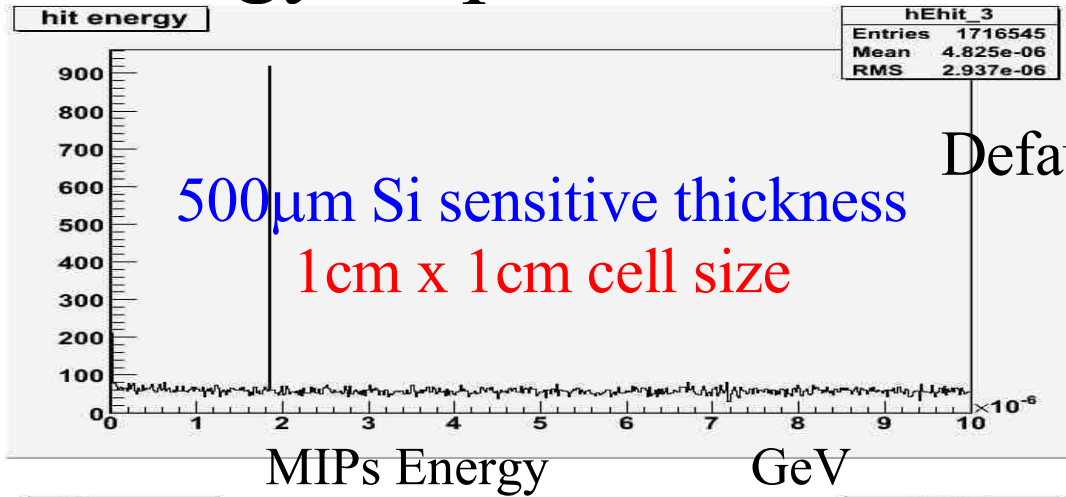


Energy Deposit of Cell hits

-15 μm Si sensitive thickness
-100 GeV single electron



Energy Deposit of Cell hits

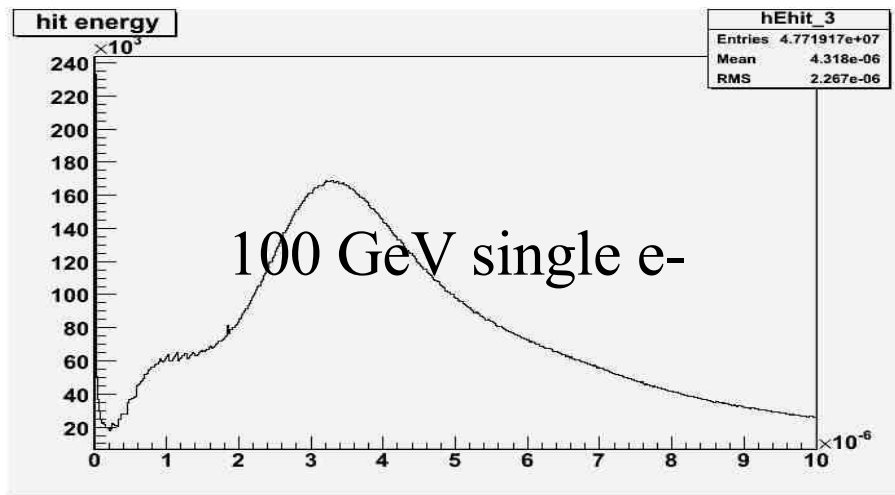
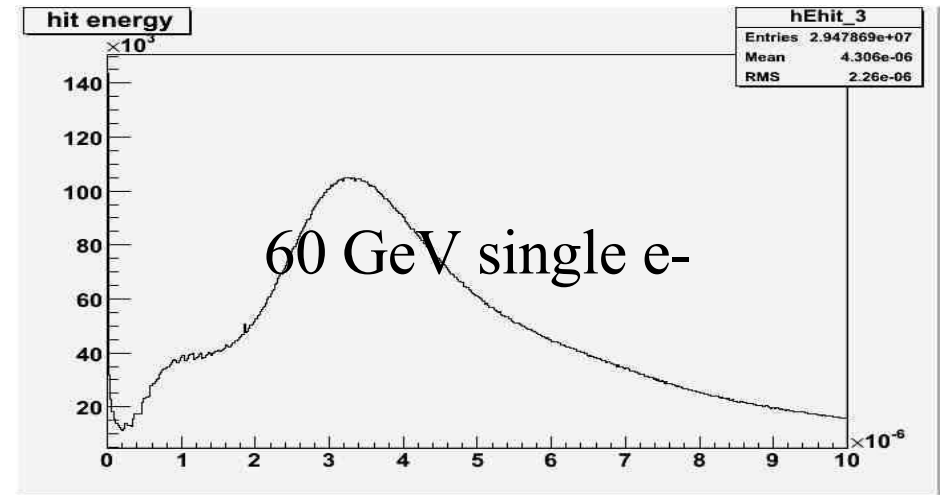
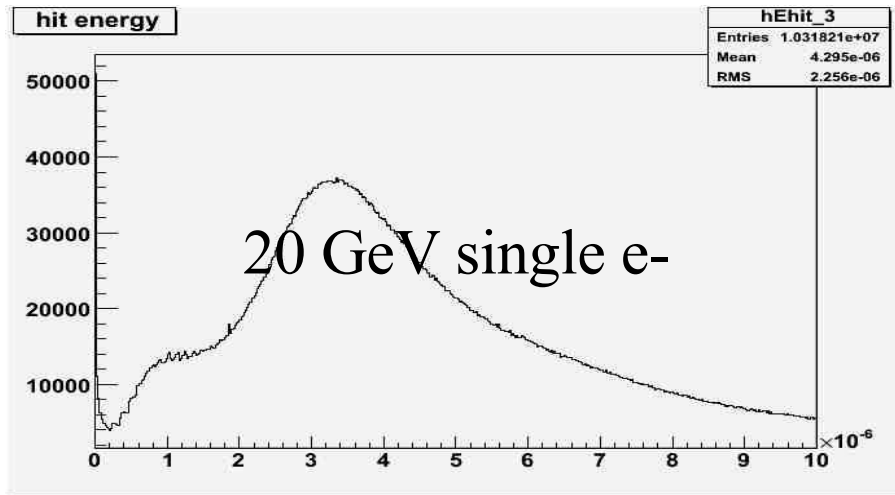


-20 GeV single electron

Energy Deposit of Cell hits

-15 μm Si sensitive thickness

-50 μm x 50 μm cell size



Mean value dose not depend on incoming electron energies.
--->Single MIP in each cell. (Individual MIP can be detected.)

48 contiguous cell hit pattern study (Under study)

CellID0	-Stave -Module -Layer -Cell x index -Guard-ring zone -Sign	CellID1	-Cell z index -Provision -sign
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- ▶ After extracting Cell z index from CellID1, contiguous 48 hits are added with requiring the same CellID0.
(Double counts are removed.)
 - ▶ Code is almost available.
 - ▶ Hopefully, I can show some distributions in next meeting.

Summary of status

- 48 contiguous cell hit pattern is probably available in the next.
- Individual secondary particle angle study depends on `getNMCcontributions()` output.
 - <-- I have to ask some expert about this.
- 50um x 50um pixel size seems to be optimized.