MAPS Simulation Status

5th October 2006

MAPS meeting at Rutherford Appleton Laboratory

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University of Birmingham

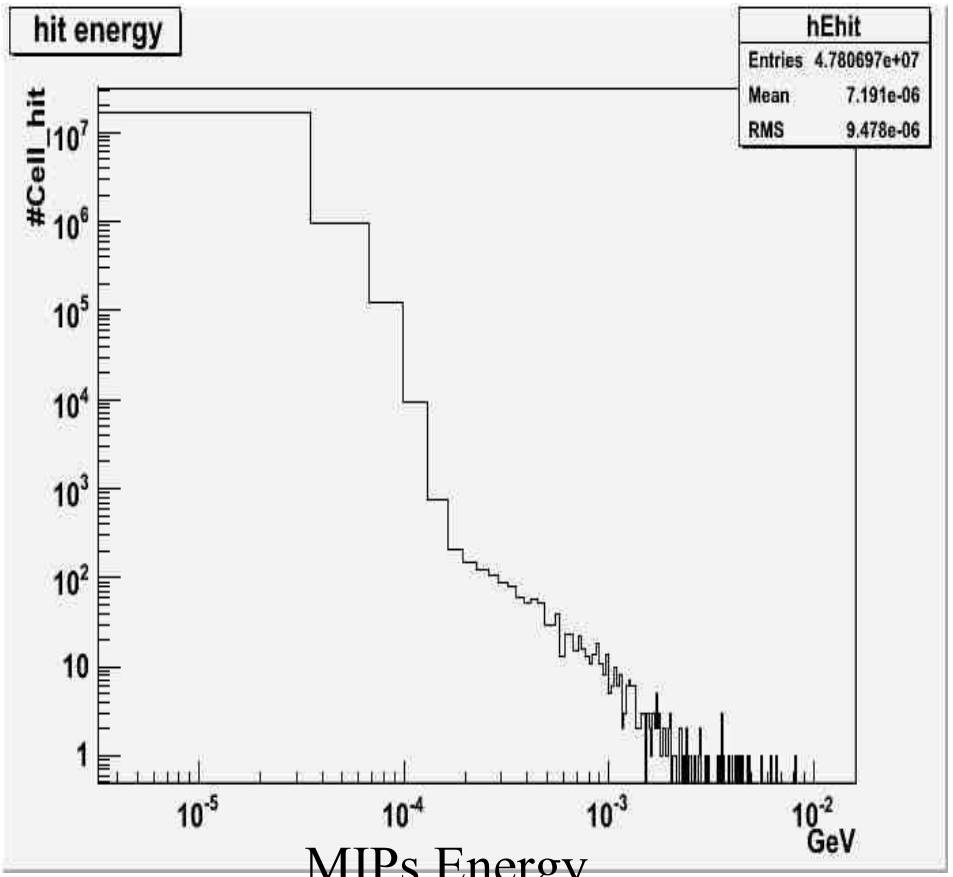
- Contents
  - Energy deposit distribution
  - 48 contiguous cells hits pattern

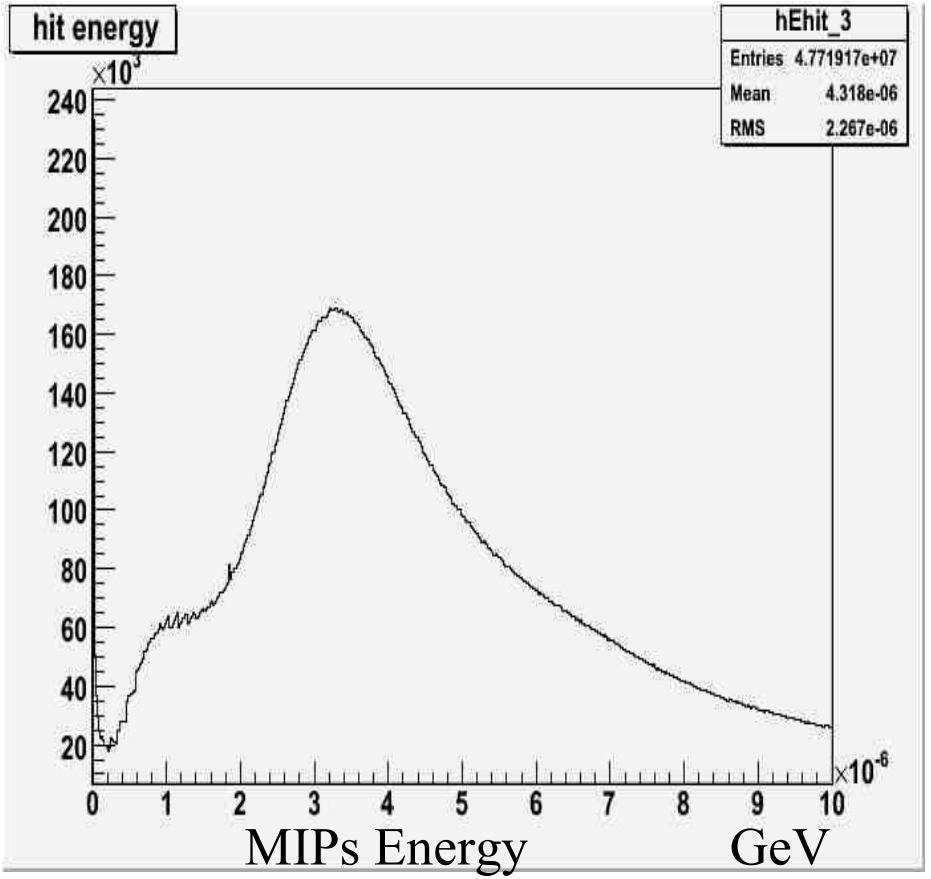
Energy Deposit of Cell hits

-15μm Si sensitive thickness

-50μm x 50μm cell size

-**100 GeV single electron**



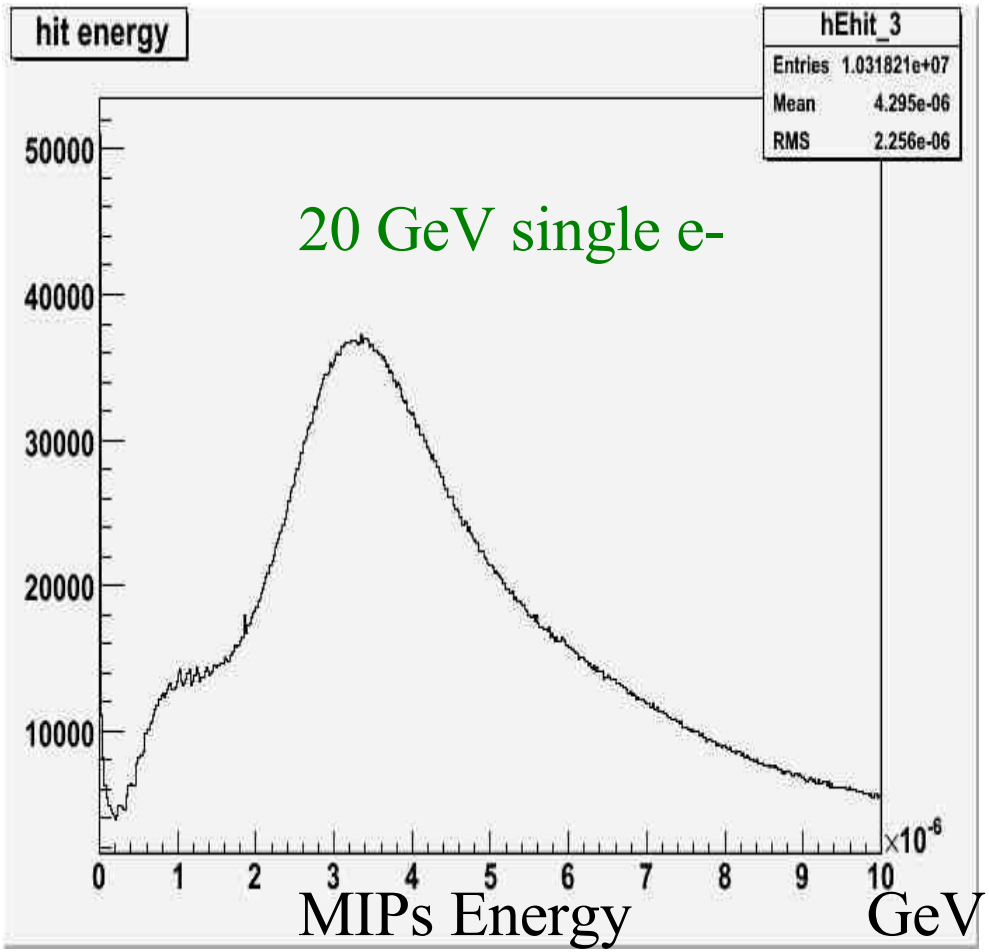


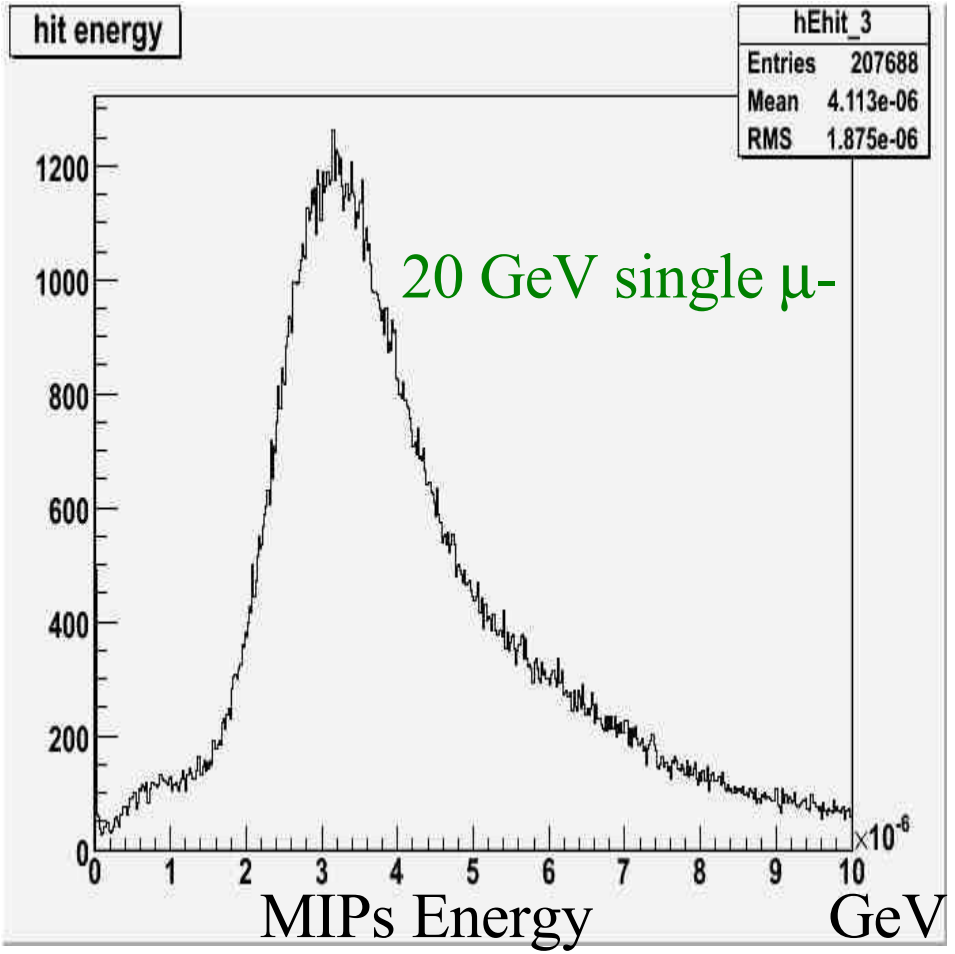
~3.5 KeV MIPs peak

Energy Deposit of Cell hits

-15μm Si sensitive thickness

-50μm x 50μm cell size

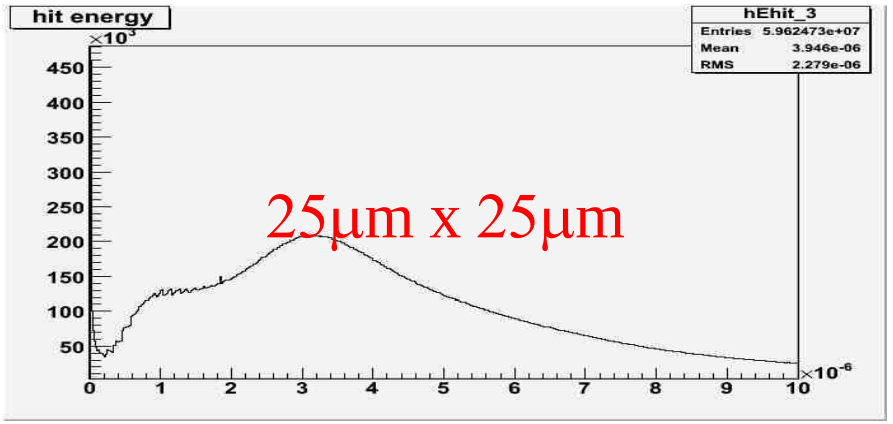


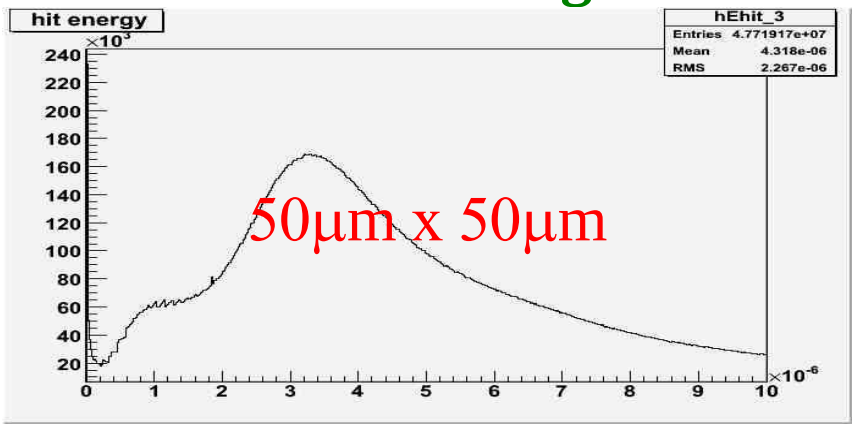


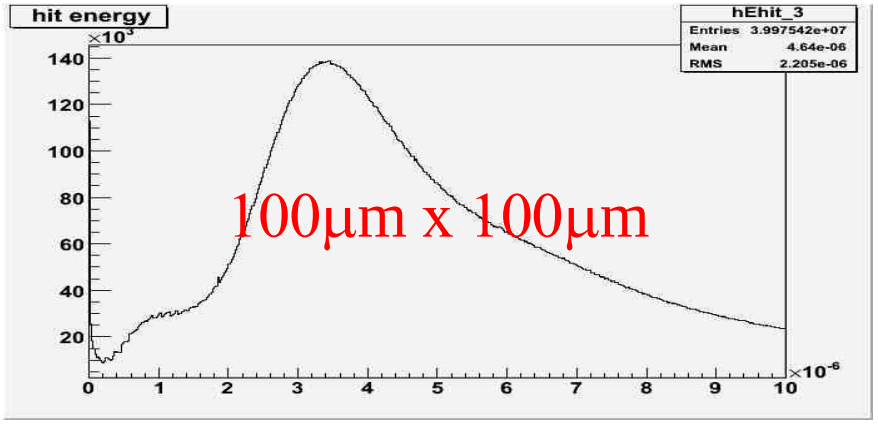
Energy Deposit of Cell hits

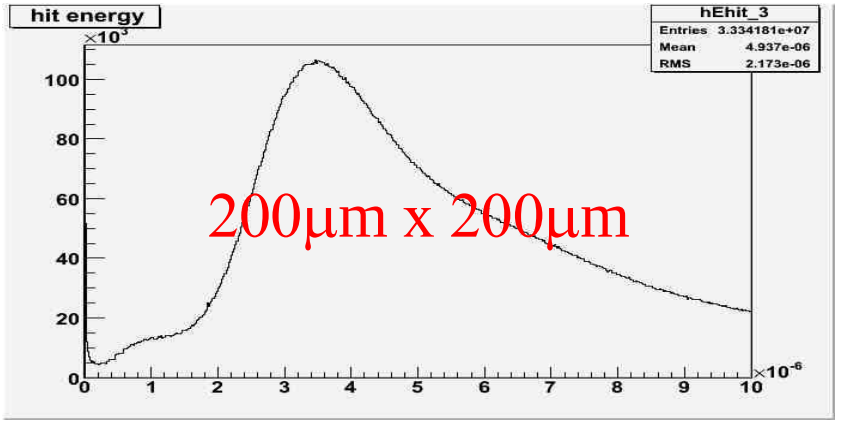
-15μm Si sensitive thickness

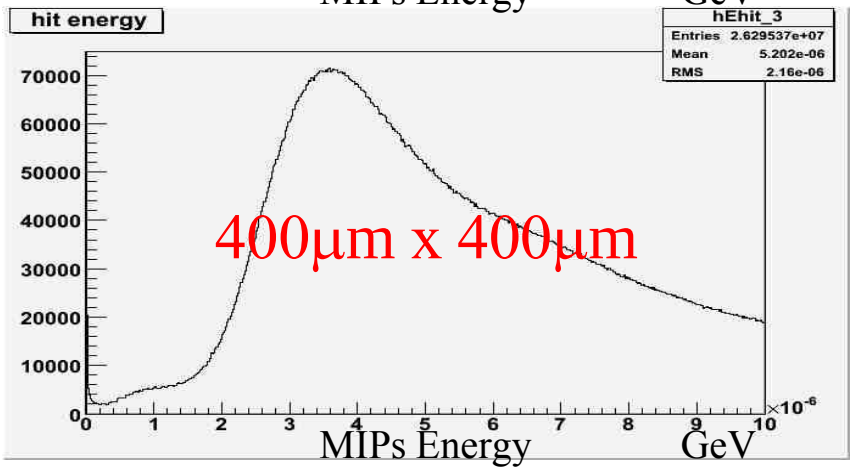
-**100 GeV single electron**

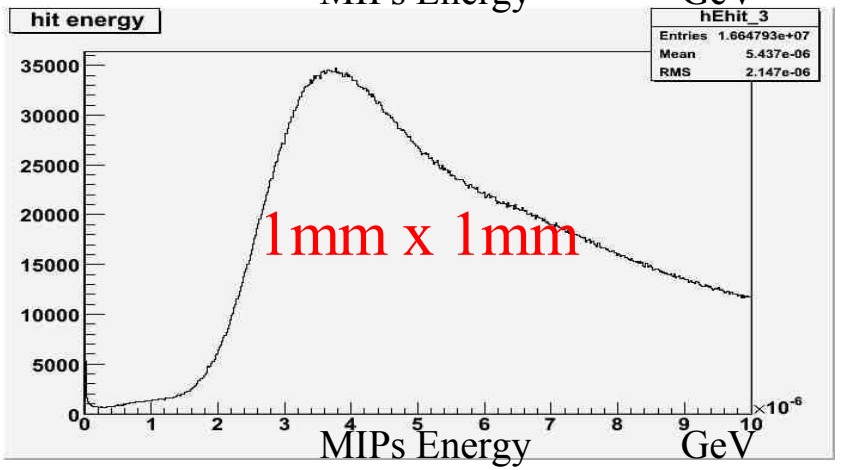




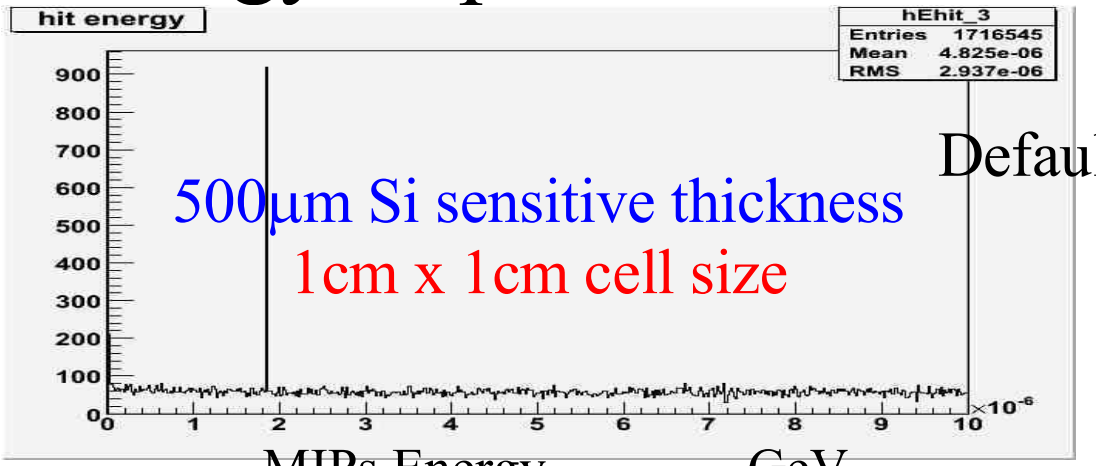




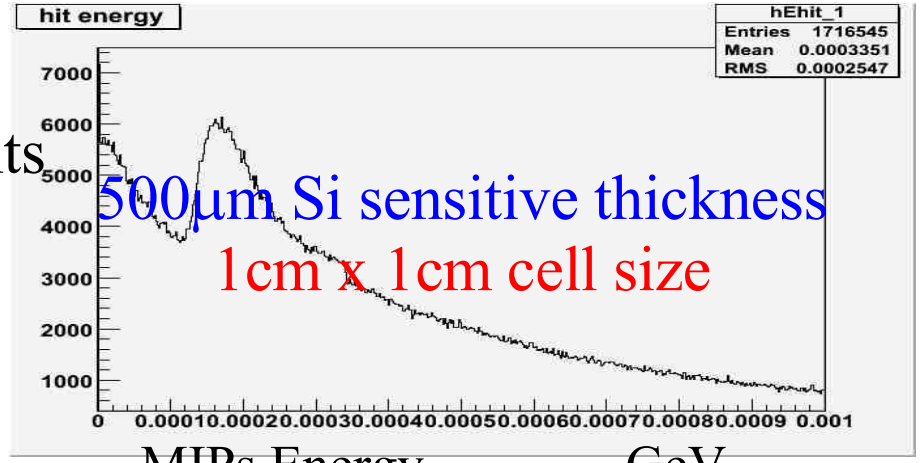


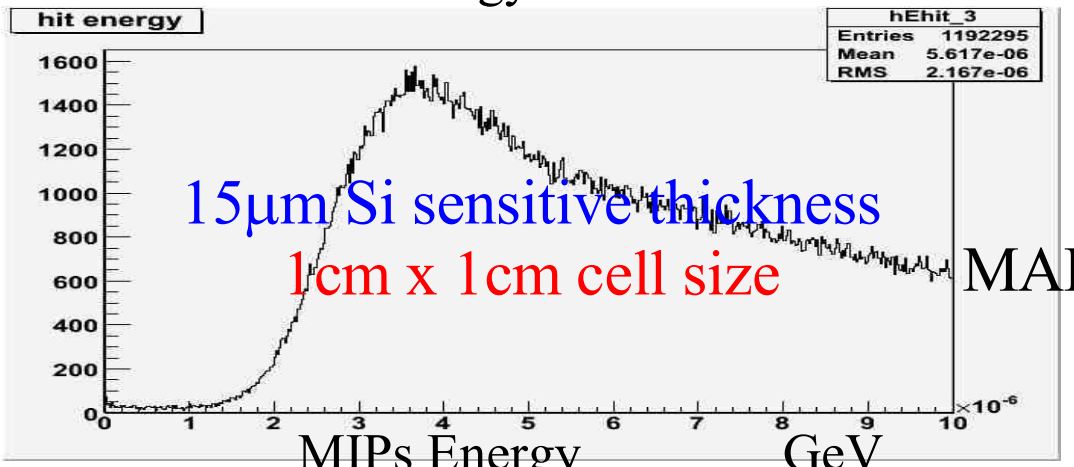


Energy Deposit of Cell hits

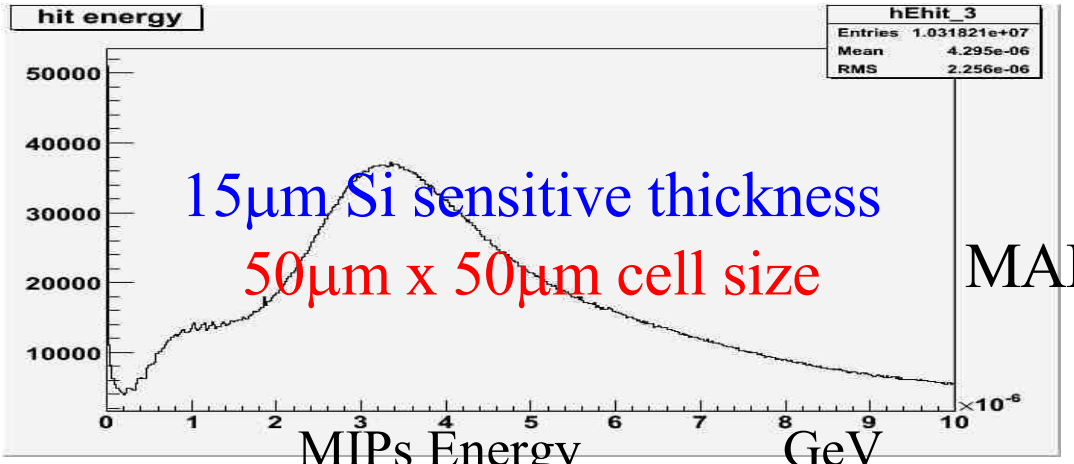


Defaults





MAPS thickness



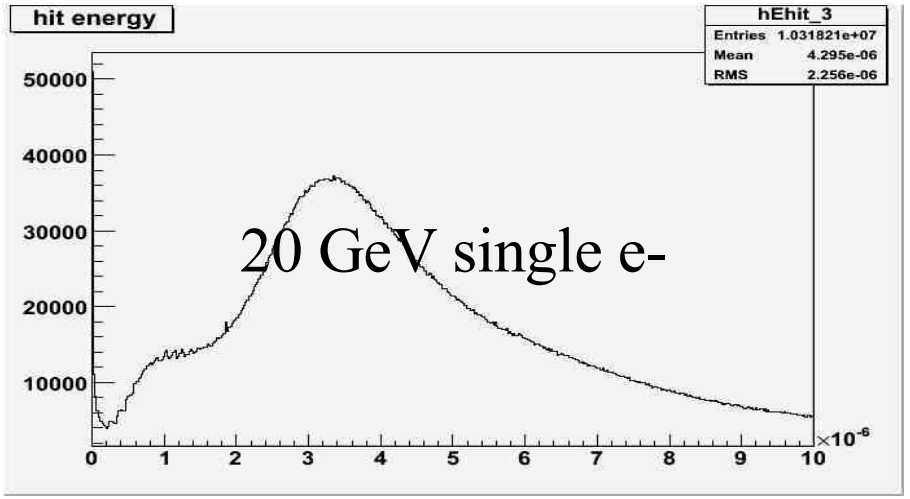
MAPS

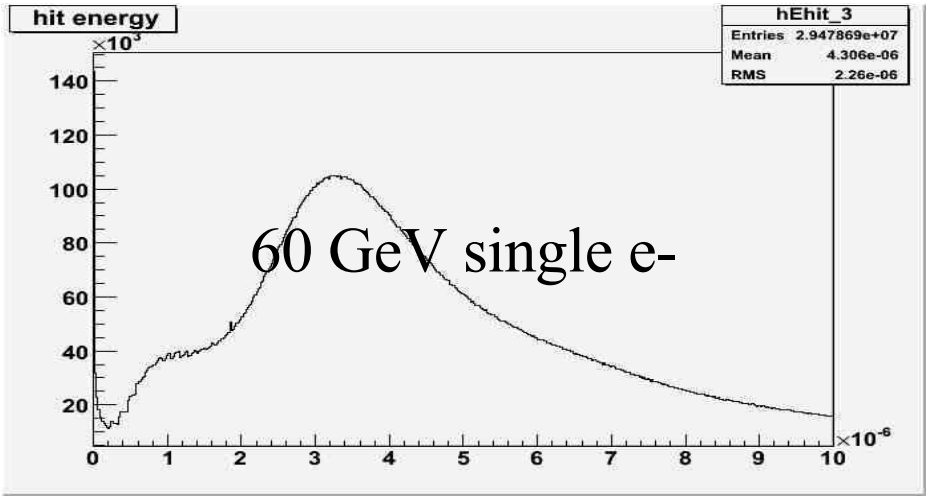
-20 GeV single electron

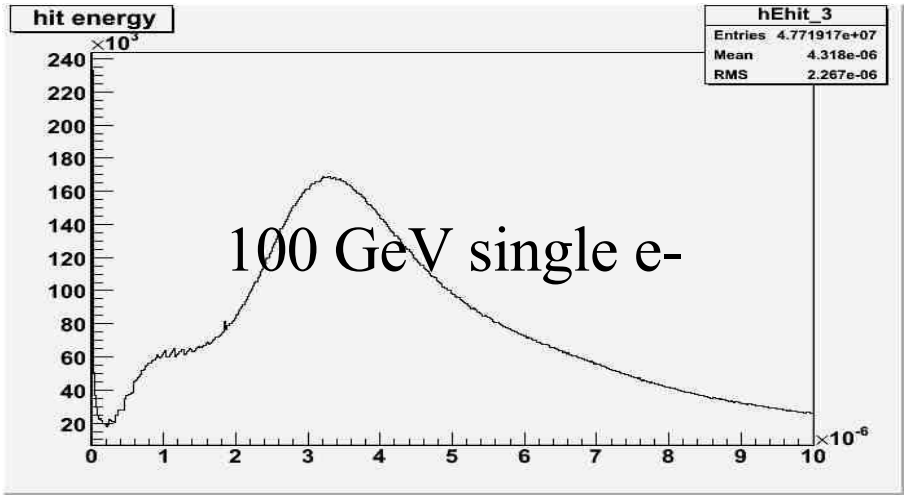
Energy Deposit of Cell hits

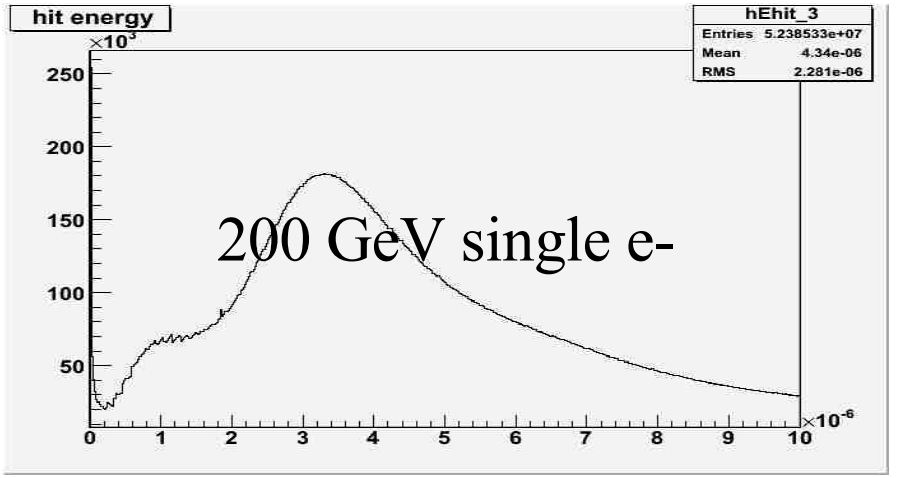
-15μm Si sensitive thickness

-50μm x 50μm 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

→ 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 expart about this.

-50um x 50um pixel size seems to be optimized.