Hcal模拟初步

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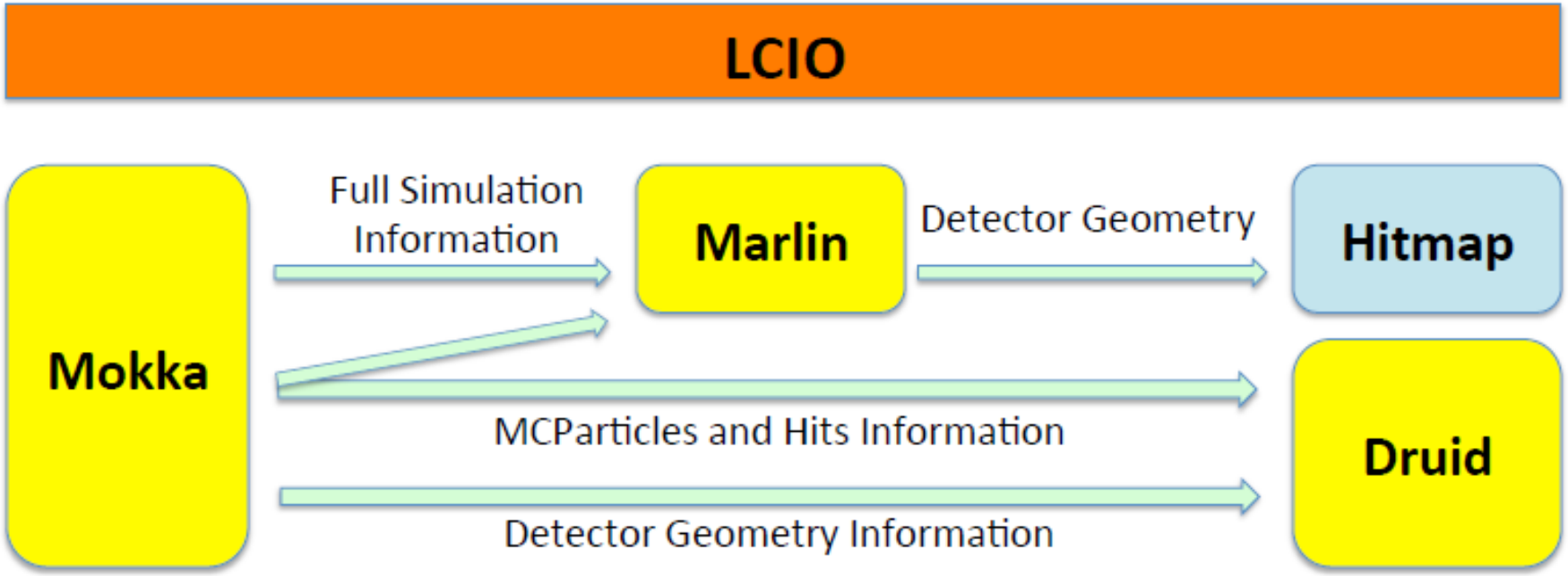
Outline

- 模拟流程
- 初步结果

模拟流程

- Flow Chart

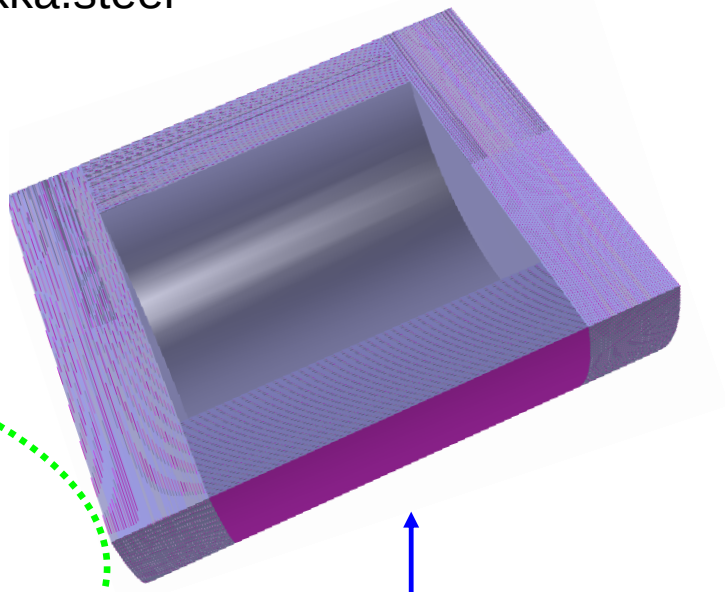


- 用Mokka 产生slcio文件以及探测器几何文件
- Marlin读取信息并写入root文件
- 查看event信息以及探测器几何可以用Druid

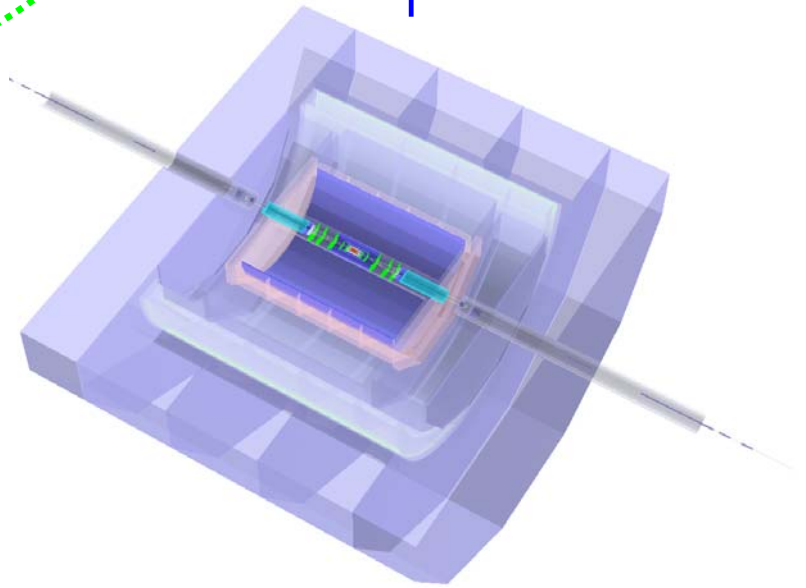
…

Mokka.steer

```
/Mokka/init/detectorModel CEPC_v1
/Mokka/init/EditGeometry/rmSubDetector all
/Mokka/init/EditGeometry/newSubDetector SiCal

/Mokka/init/dbHost 202.122.37.75
/Mokka/init/user consult
/Mokka/init/dbPasswd consult
/Mokka/init/startEventNumber 0

/Mokka/init/globalModelParameter world_box_hx 100000
/Mokka/init/globalModelParameter world_box_hy 100000
/Mokka/init/globalModelParameter world_box_hz 250000
/Mokka/init/globalModelParameter SiCalLayerStructure (Iron:0,THGEM2:3,PCB:1.5)
*50
/Mokka/init/globalModelParameter SiCalZeroThickReset 20*50
/Mokka/init/globalModelParameter SiCalInnerRadius  1845
/Mokka/init/globalModelParameter SiCalBarrelHalfZ  2450
/Mokka/init/globalModelParameter SiCalEndcapEta1   9999
/Mokka/init/globalModelParameter SiCalEndcapEta2   9999
/Mokka/init/globalModelParameter SiCalBuildBarrel  1
/Mokka/init/globalModelParameter SiCalXCellSize  2.5,10
/Mokka/init/globalModelParameter SiCalYCellSize  2.5,10
/Mokka/init/globalModelParameter SiCalEndcapOuterR  3113.5

/Mokka/init/lcioFilename
/cefs/higgs/hongdj/pi+/sen_det/gas/data/50layers/100GeV_1000events_
10mm/100GeV_1000events_10mm
/Mokka/init/initialMacroFile
/cefs/higgs/hongdj/pi+/sen_det/gas/data/50layers/100GeV_1000events_
10mm/tmp_steer/event_100GeV_1000events_10mm.macro
/Mokka/init/MokkaGearFileName
/cefs/higgs/hongdj/pi+/sen_det/gas/data/50layers/100GeV_1000events_
10mm/SimHCALGeometry.xml
/Mokka/init/BatchMode true


/Mokka/init/lcioDetailedShowerMode true
```

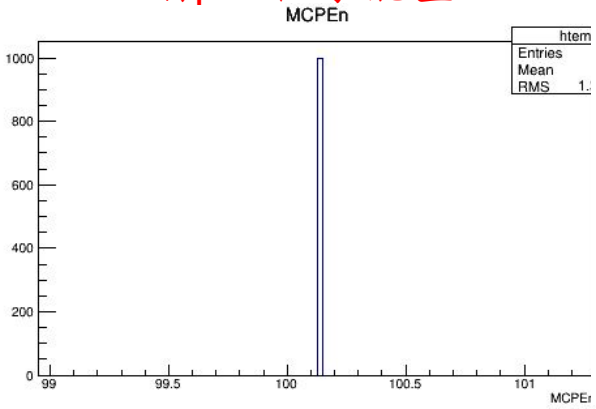


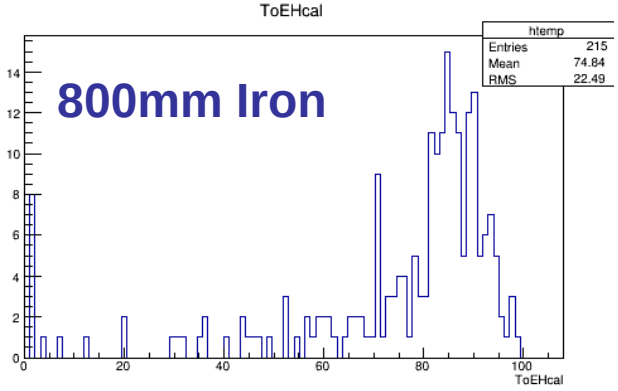
简化

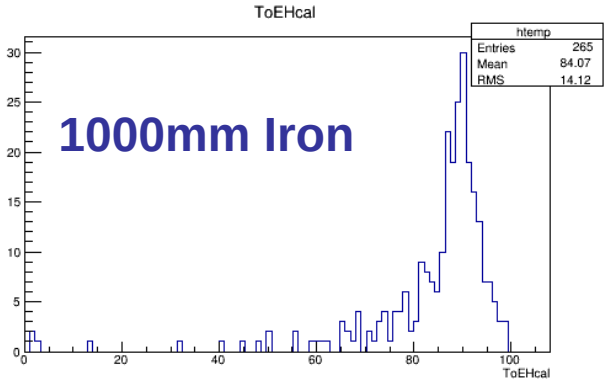


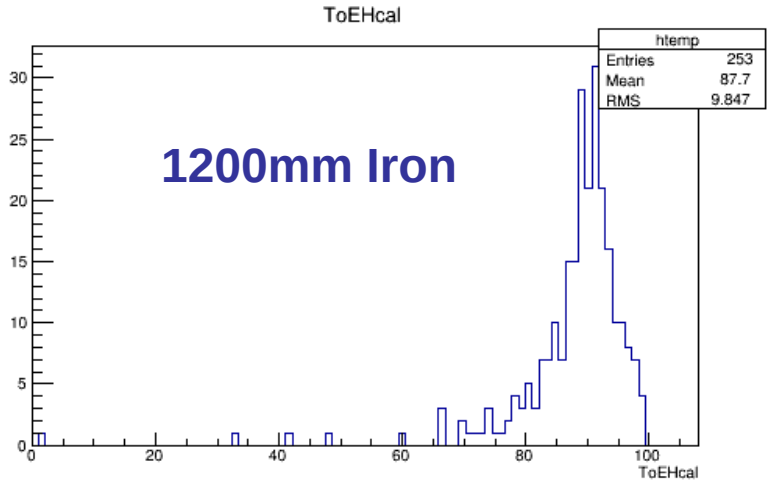
吸收体沉积能量

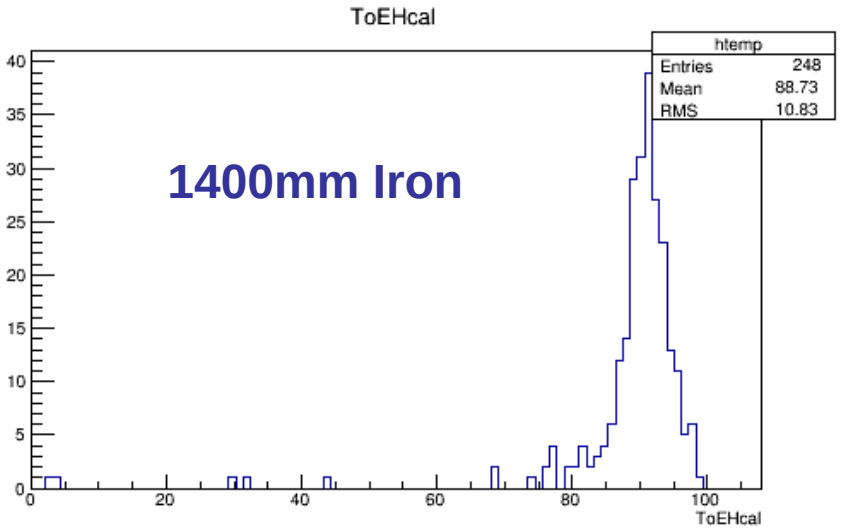
入射pi+粒子能量





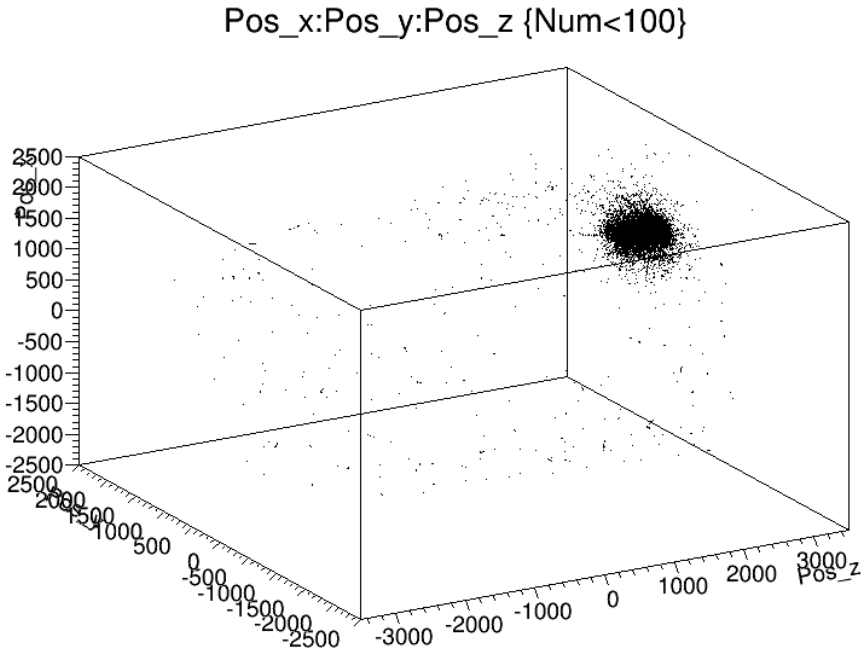


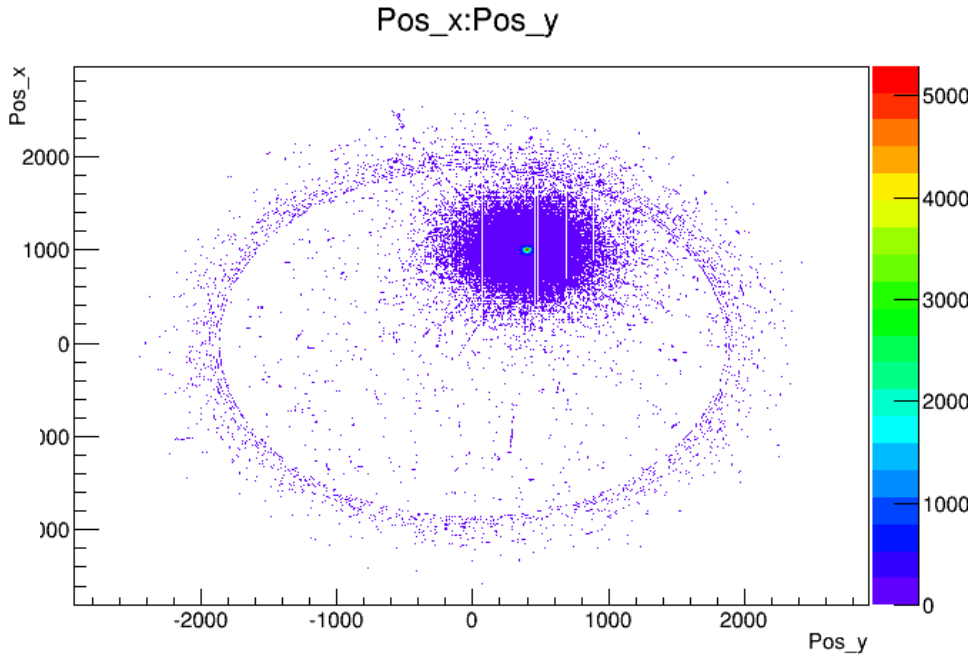




Hit 位置分布

Hit level

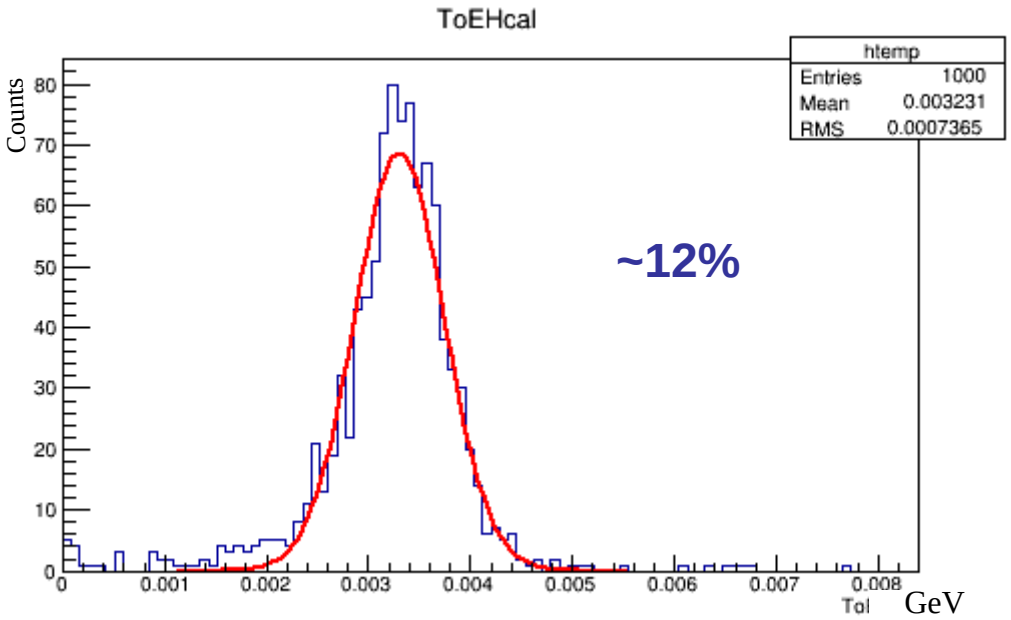




/gun/position 1000 400 2000 mm
/gun/direction 0.0 0.0 1.0
/gun/energy 100 GeV

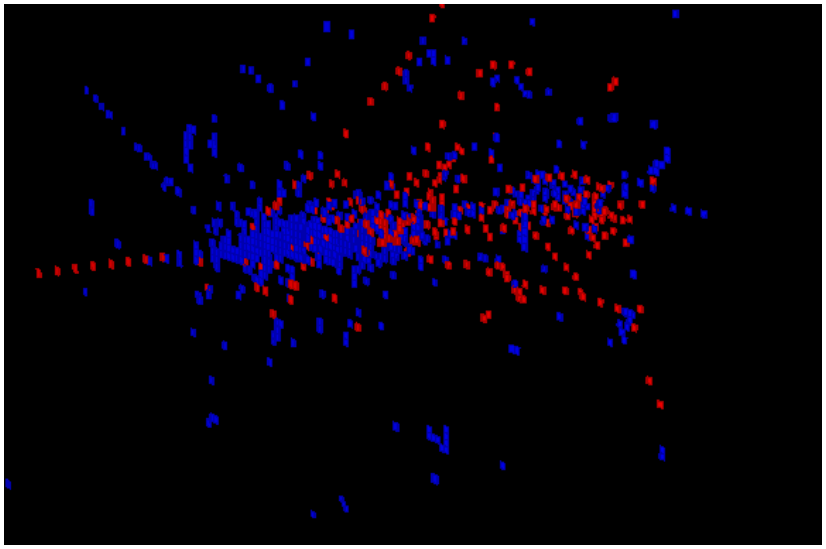
/gun/particle pi+
/run/beamOn 1000

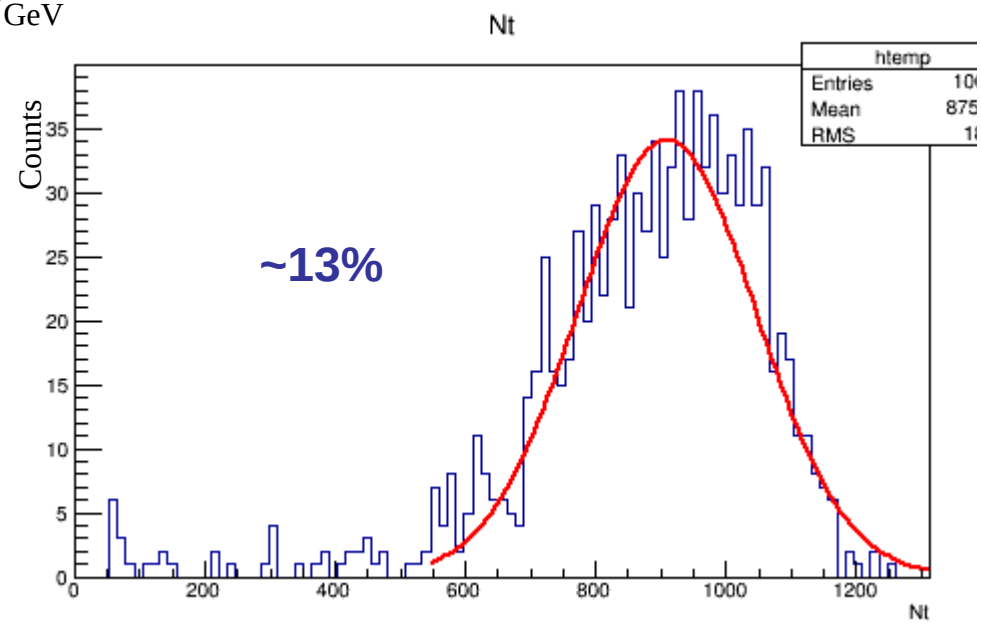
灵敏层沉积能量



每个event在hcal中沉积的能量

对每个hit沉积的能量，卡阈0.2mip，过阈计1，每个event的hit数累加





Backup