

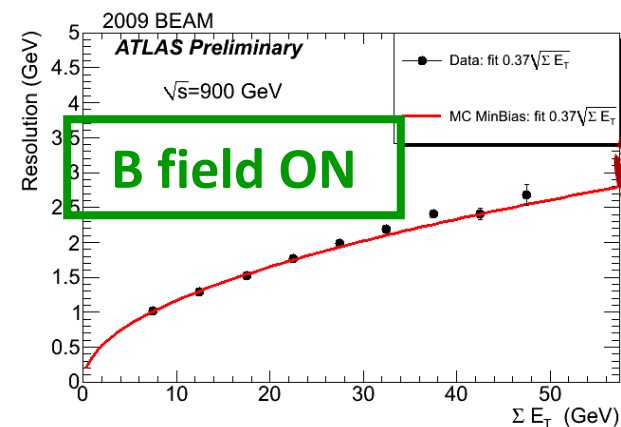
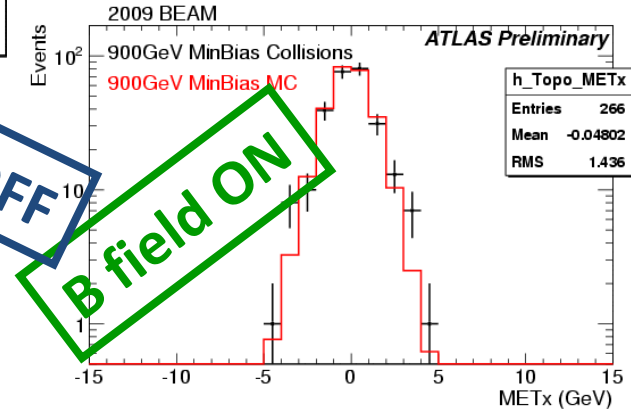
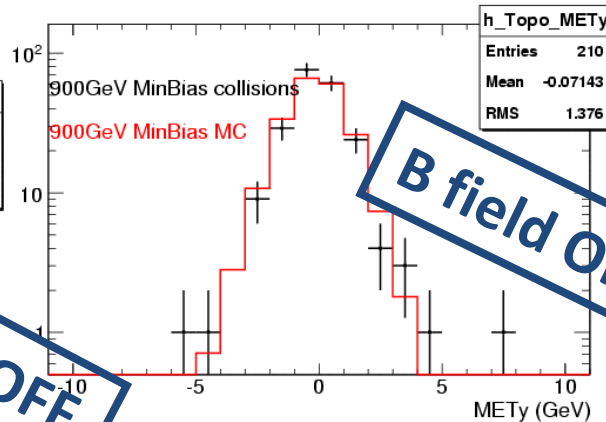
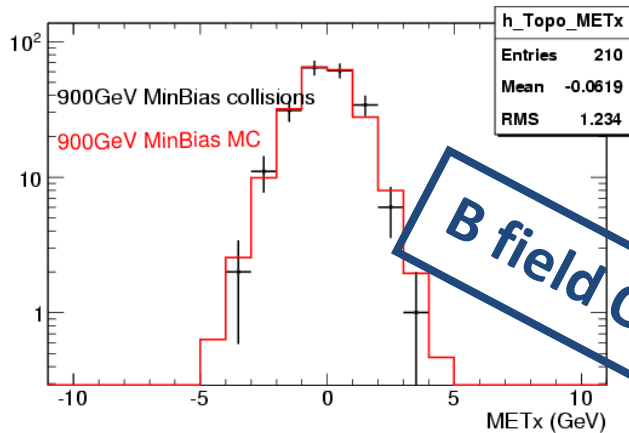


**Preliminary  $E_t^{\text{miss}}$  results  
with 900GeV and 2.36TeV  
MinBias collision events**

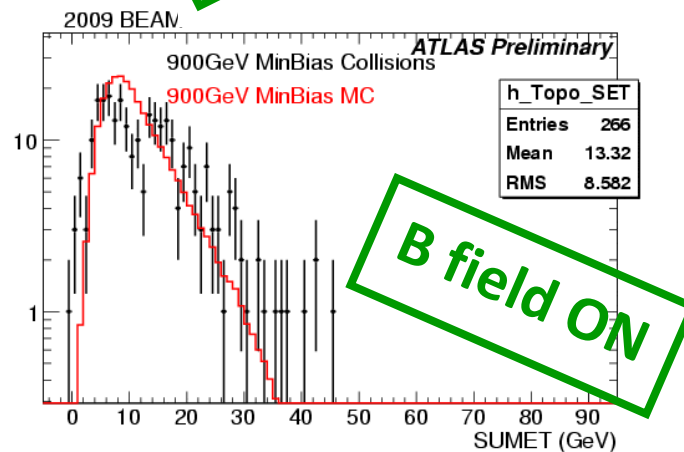
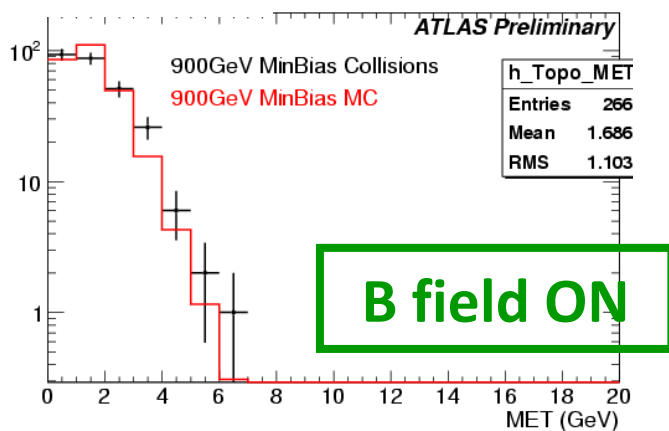
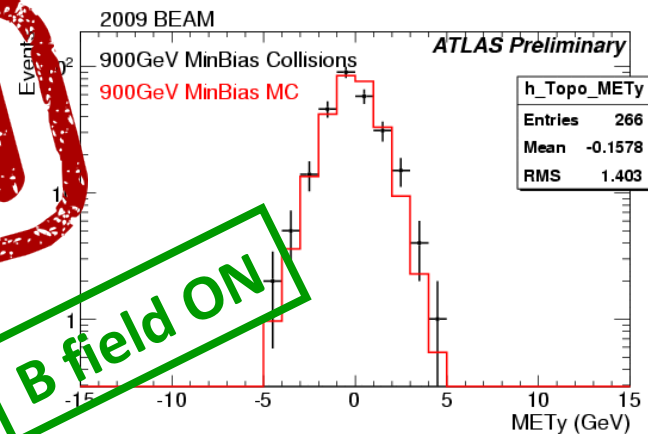
**D. Cavalli, S. Resconi, R. Simoniello  
INFN Milano**

# How we work

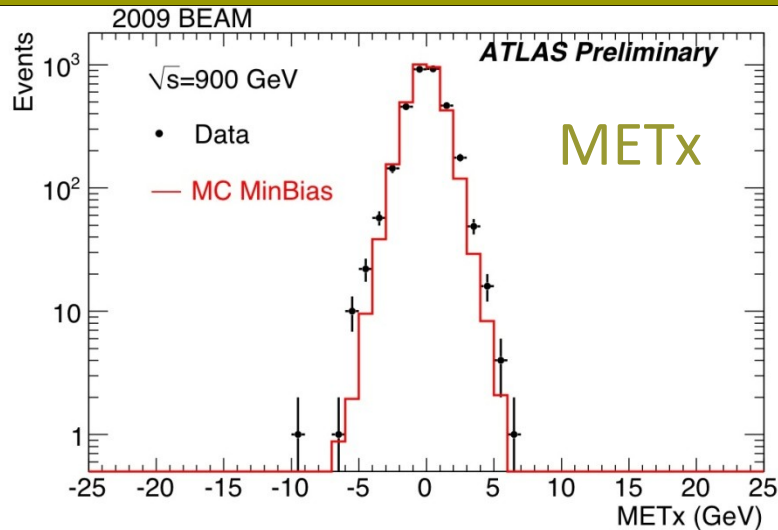
- Data MinBias DESD\_COLL CAND at Milano (T2):
  - Subscription (both automatically and manually activated)
  - dq2-get
- MC MinBias at 900GeV: D3PD centrally produced by jet/etmiss task force
- Run with Athena at Milano (T2):
  - METPerformance  File of histograms and D3PD
- Macros  Plots
- Degree of happiness: **OPTIMUM** 😊😊😊  
**ALL WORKED!!**



**APPROVED**  
AS PUBLIC RESULTS

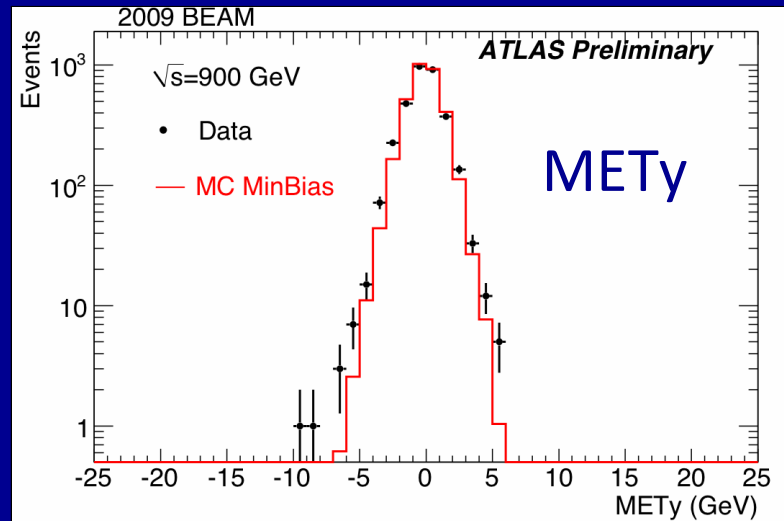


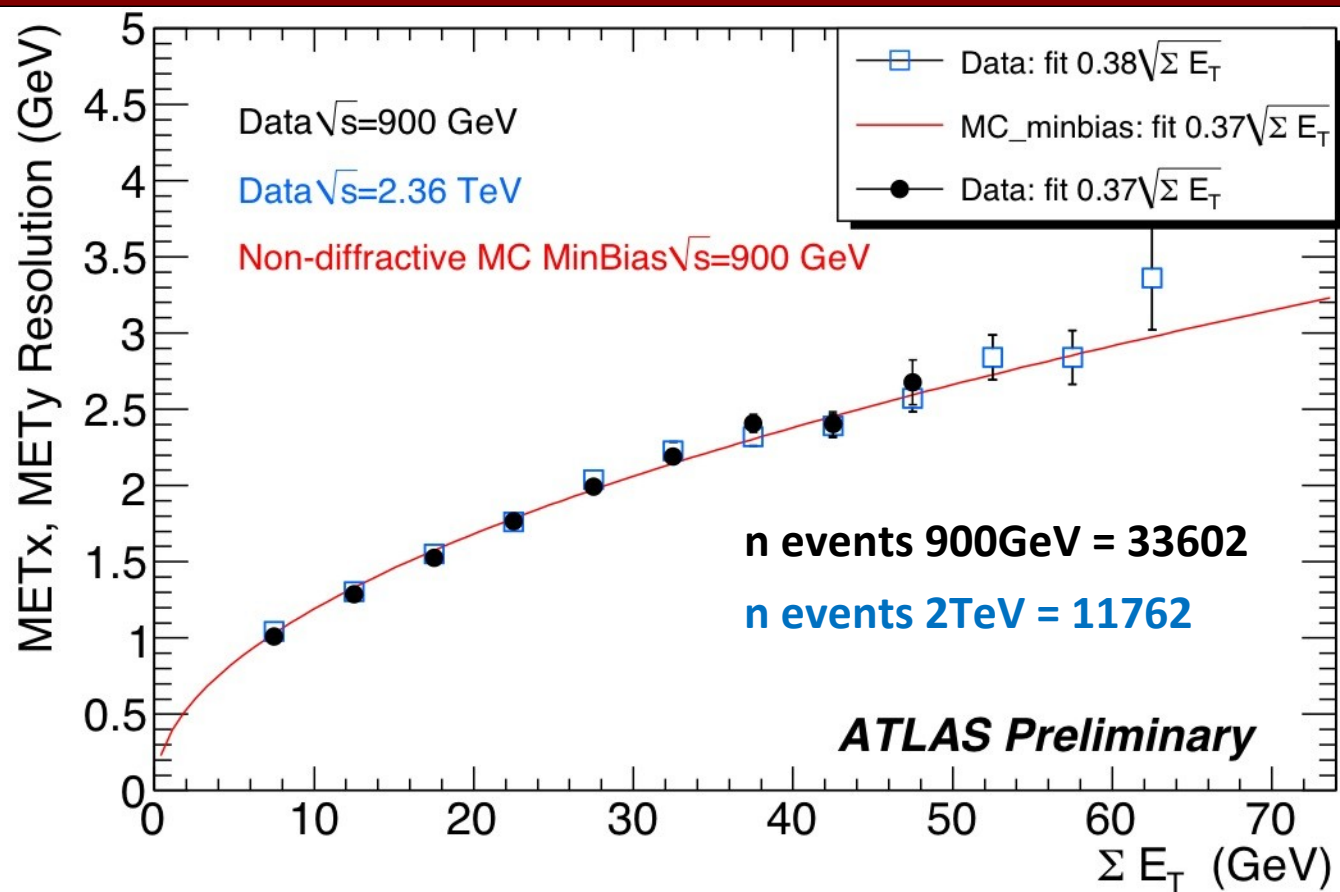
- Sensitive to calorimeter performance (noise, coherent noise, dead cells, mis-calibrations, cracks, etc.) and backgrounds from cosmics, beams, ...
- Measurement over full calorimeter coverage ( $360^\circ$  in  $\phi$ ,  $|\eta| < 5$ ,  $\sim 200000$  cells)



n events = 3249

METx / METy indicate x/y components of missing  $E_T$  vector





# More on Data

We used:

## 1. MinBias MonteCarlo sample (**B field ON**)

mc09\_900GeV.105001.pythia\_minbias.recon.AOD.e466\_s604\_s582\_r851\_tid097889

## 2. MinBias DESD\_COLL CAND 900GeV

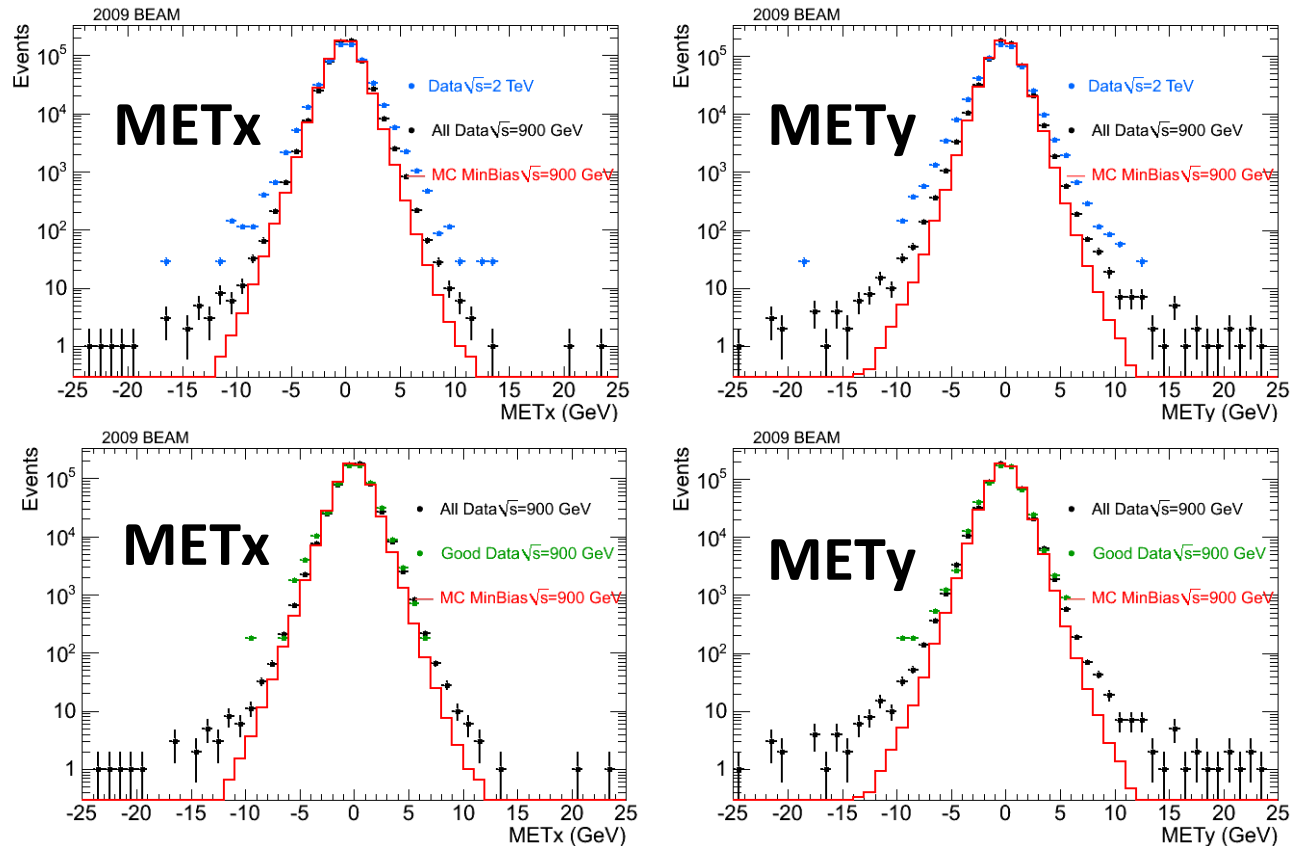
- **All Run:** 141565, 141707, 141721, 141746, 141749, 141755, 141811, 142149, 142154, 142157, 142159, 142165, 142166, 142171, 142174, 142189, 142191, 142193, 142195  
n. events = 581360
- **“Doc” Run (no bad channels → All green):** 141755  
n . events = 3249

## 2. MinBias DESD\_COLL CAND 2.36TeV

- Run 142308 (LB 296-390), 142402  
n . events = 20291

# Comparison between: All run (900GeV and 2TeV), “Doc” run and MC

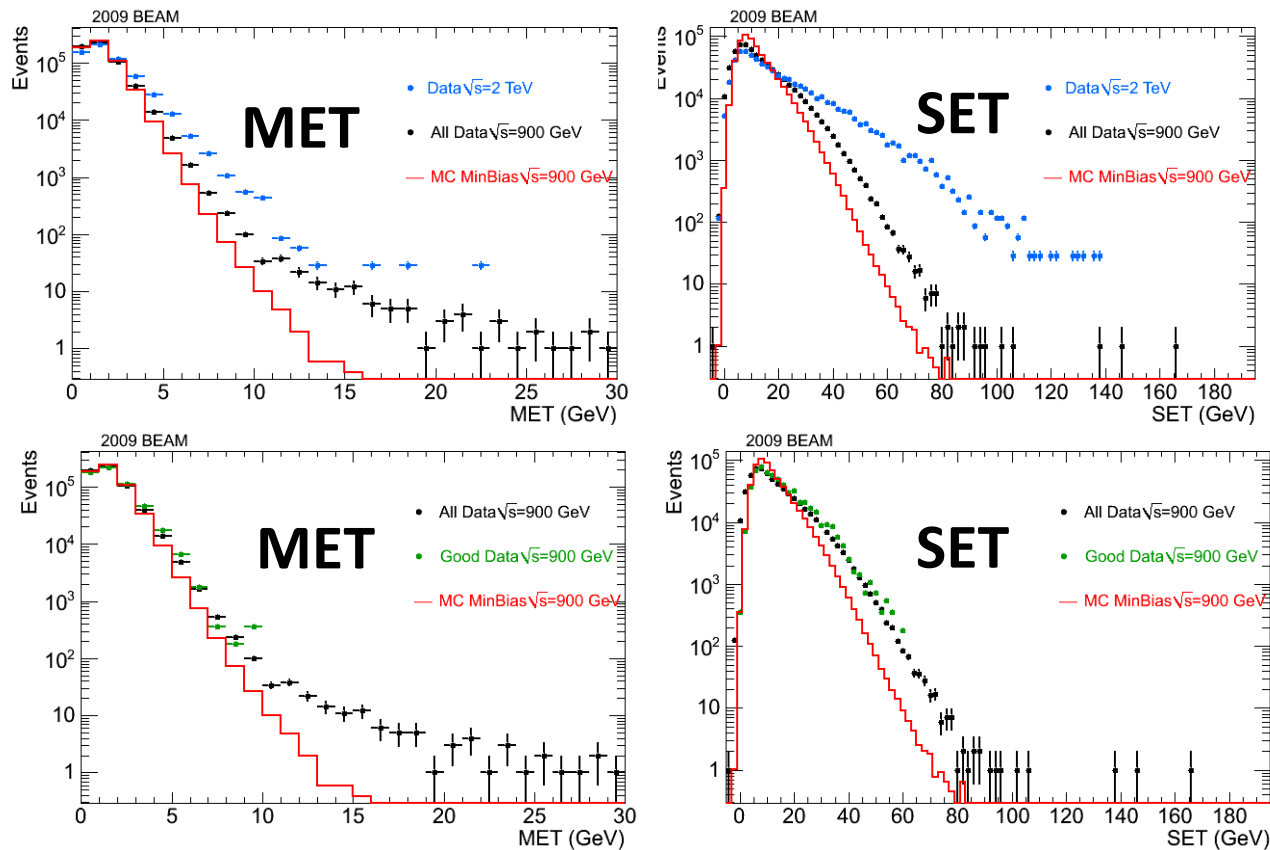
We renormalized the 20291 events of data at 2TeV and the MC to the 581360 events of data at 900GeV



Tails are due to sporadic bad channels in EMBA, EMBC, HECC, ...

# Comparison between: All run (900GeV and 2TeV), “Doc” run and MC

We renormalized the 20291 events of data at 2TeV and the MC to the 581360 events of data at 900GeV



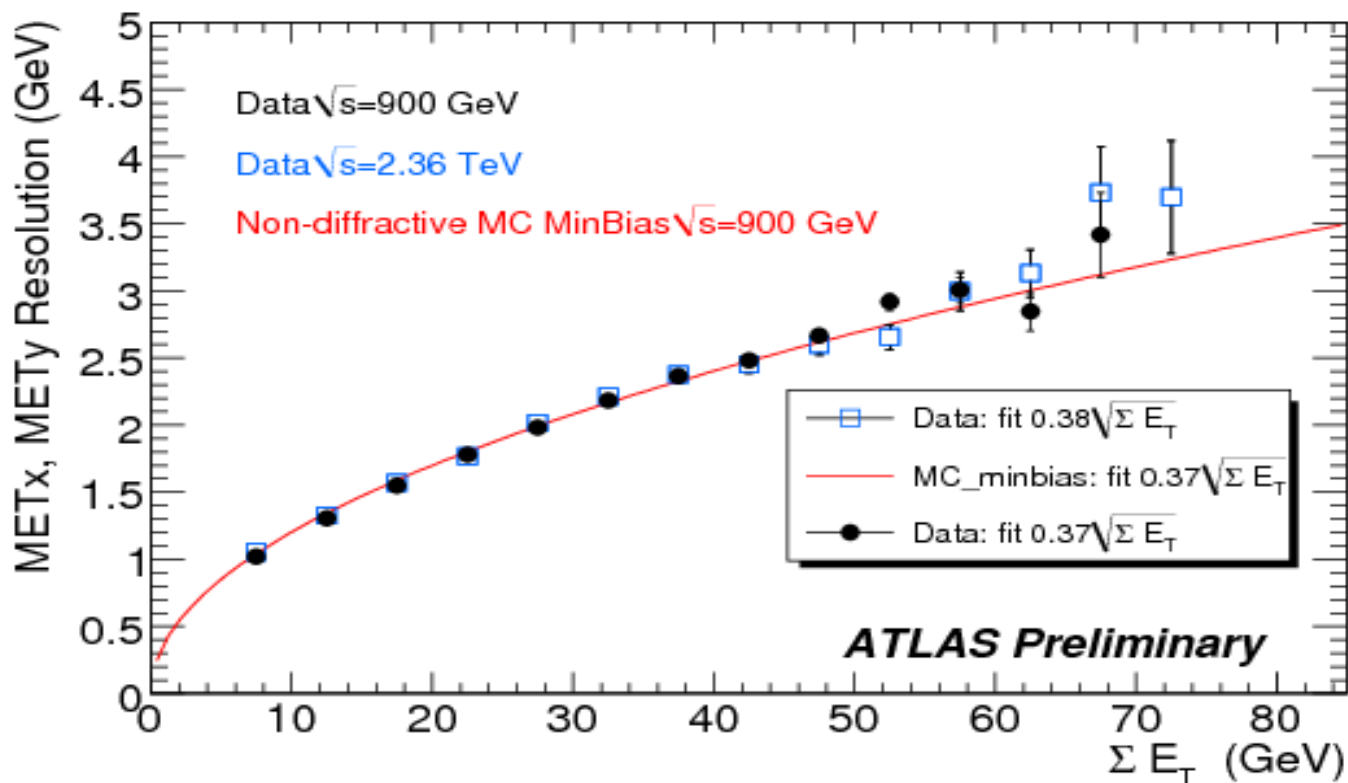
Tails are due to sporadic bad channels in EMBA, EMBC, HECC, ...



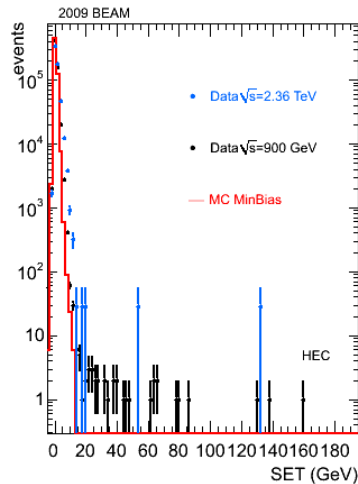
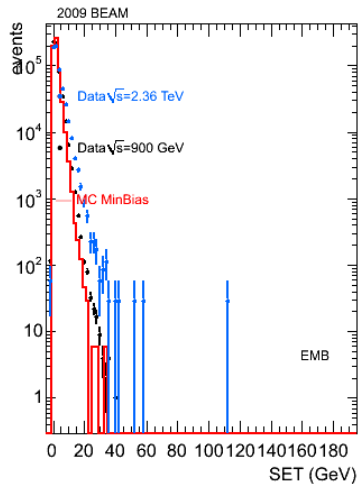
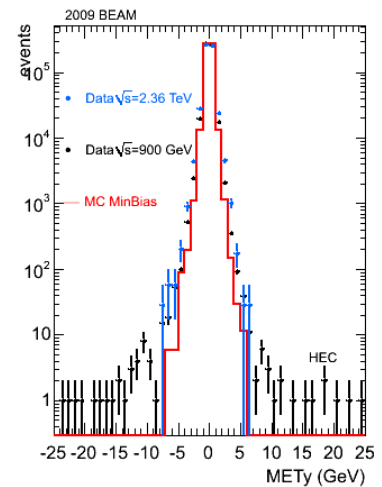
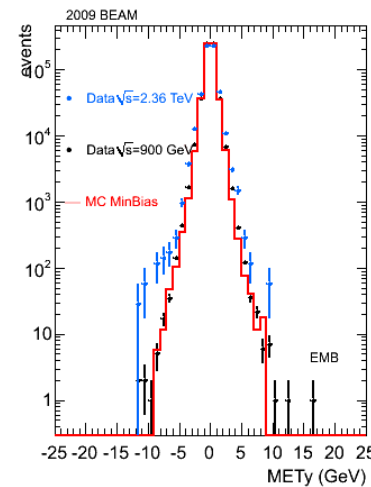
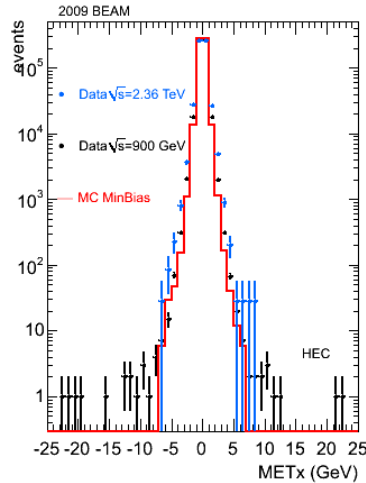
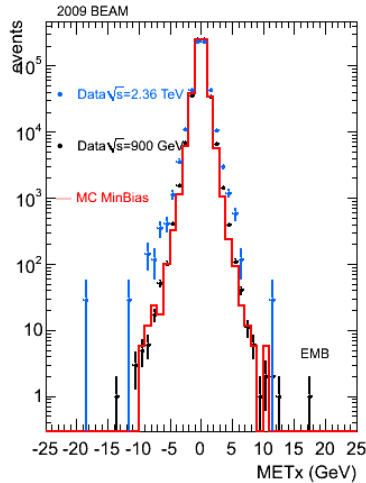
# Resolution curve

The curve is obtained with whole statistics at 900 GeV (581360 events)

and all statistics at 2 TeV (20291 events)



# Calorimeters



We renormalized the 20291 events of data at 2TeV and the MC to the 581360 events of data at 900GeV

Tails are due to sporadic bad channels in EMBA, EMBC, HECC, ...

# Future Work Program

1. Christmas reprocessing with masking



[...]There are 10 new bad channels discovered over the last 2 months, being documented daily (reminder: the calorimeter contains more than 180 000 channels in total !) [...]

2. New MC MinBias at 900GeV (with same geometry as data)

3. D3PD both MC and Data produced by jet/etmiss task force

4. Cleaning against cosmic muons and beam halo



Possible in METPerformance

**GOAL**



publish a CONF note  
by the end of January

# **Thanks For Attention!!**



***Thanks to  
ATLAS  
senior***

***Go ATLAS  
junior!!***

