

# BetaR vs. BetaH comparison

A. Contin for the AMS-TOF Group

GroupA Meeting, 18/10/2012

# Goal

---



Fast (but not so dirty) preliminary analysis on the differences between BetaR and BetaH

One month of data taking (november 2011, randomly chosen).

Event selection (nearly following Melanie select\_4.C):

- Physics runtag
- HW failures
- Level1 existing & TOF 4/4
- $ACC \leq 5$
- One particle
- One track in particle
- One ECAL shower in particle
- Good track in particle
- $0.5 < Z < 1.5$  in tracker
- Track inside ECAL
- TRD quality cuts

After “Good track in particle”:

BetaR pattern 3/4    4/4	96.1% of events
BetaH pattern 3/4    4/4	99.7% of events

After “TRD quality”:

BetaR pattern 3/4    4/4	99.6% of events
BetaH pattern 3/4    4/4	100.0% of events

BETAR	3/4: 3.9%
	4/4: 96.1%

BETAH	3/4: 0.5%
	4/4: 99.5%

- Physics runtag
- HW failures
- Level1 existing & TOF 4/4
- ACC<=5
- One particle
- One track in particle
- One ECAL shower in particle
- Good track in particle
- 0.5<Z<1.5 in tracker
- Track inside ECAL
- TRD quality cuts

# TOF Paddles used in beta calculation

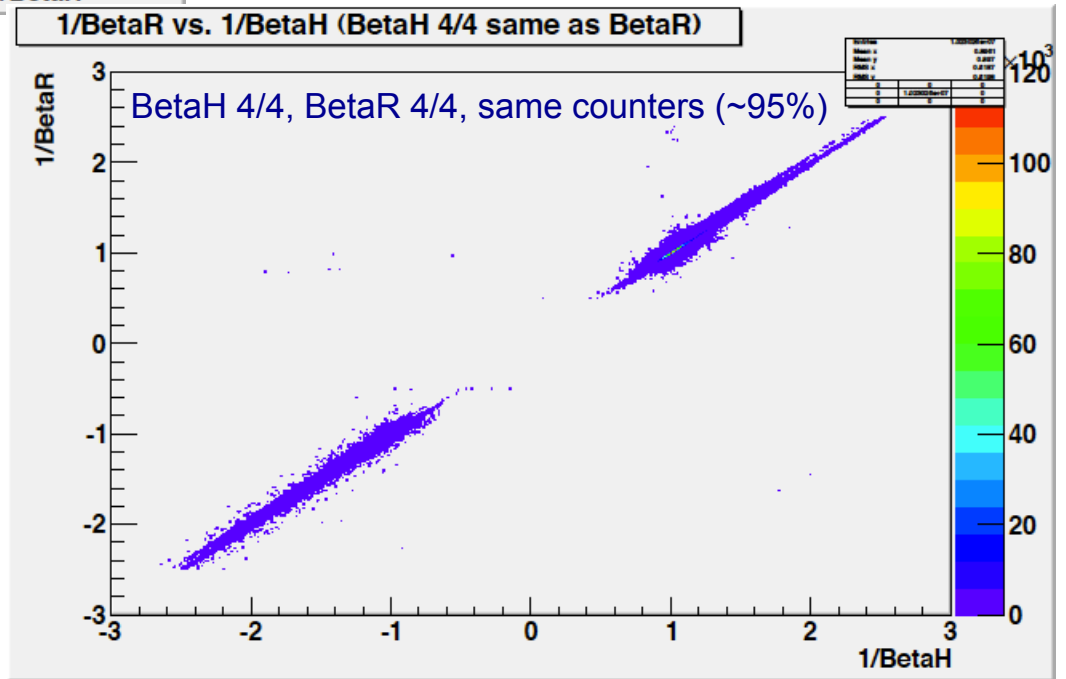
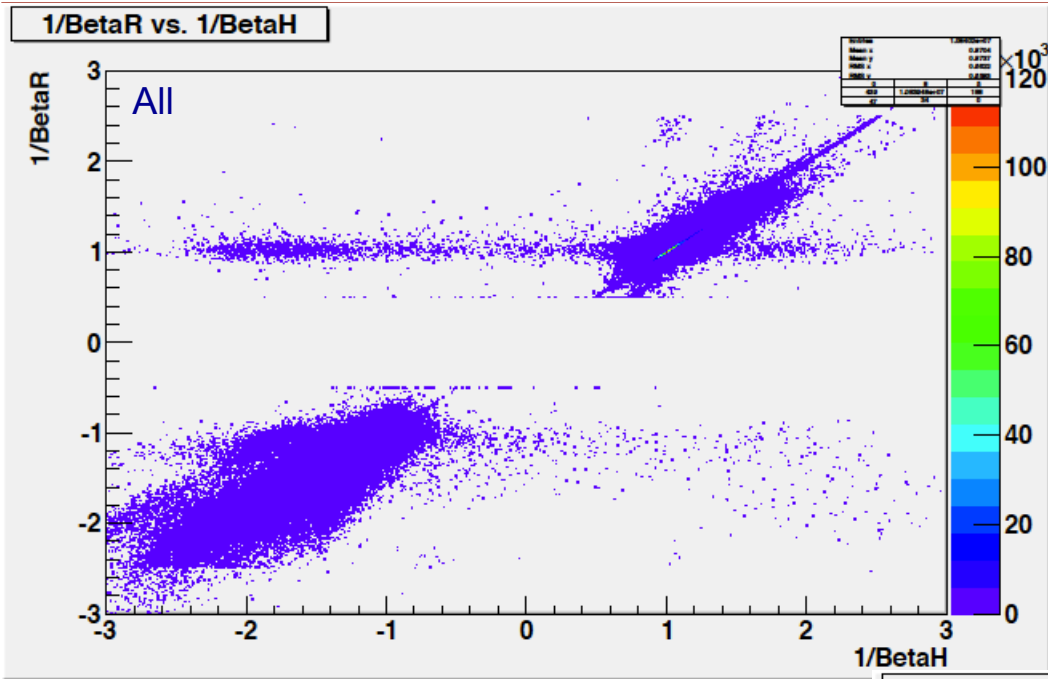
---



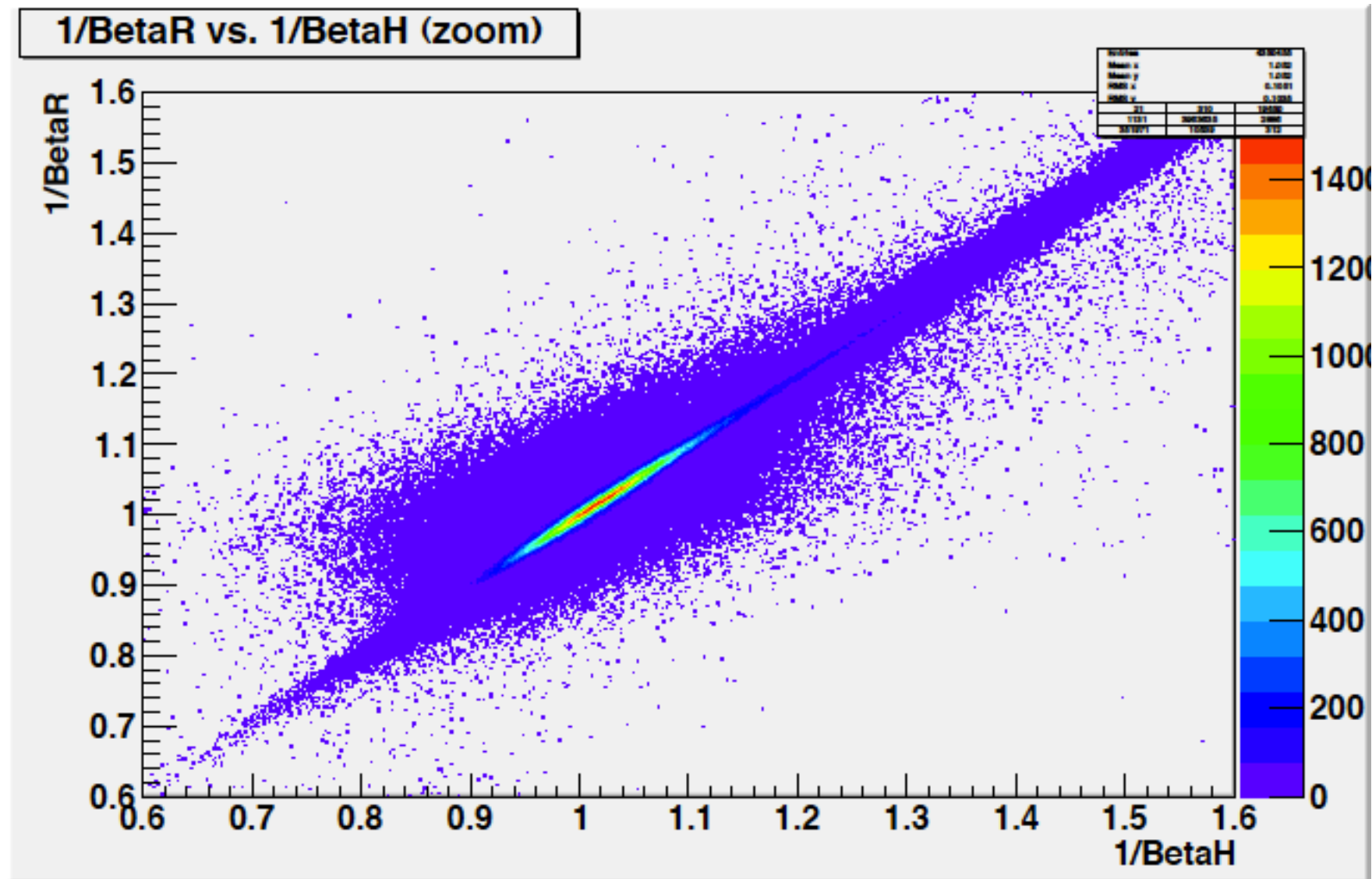
For BetaH 4/4 events:

BetaR 1 common paddle	0.0%
BetaR 2 common paddle	0.1%
BetaR 3 common paddle	4.5%
BetaR 4 common paddle	95.4%

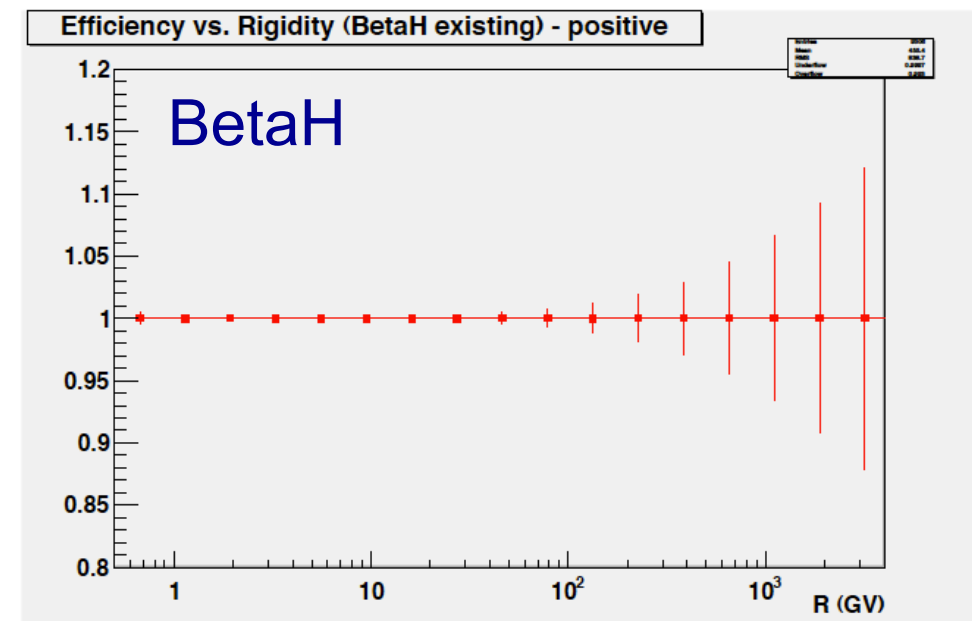
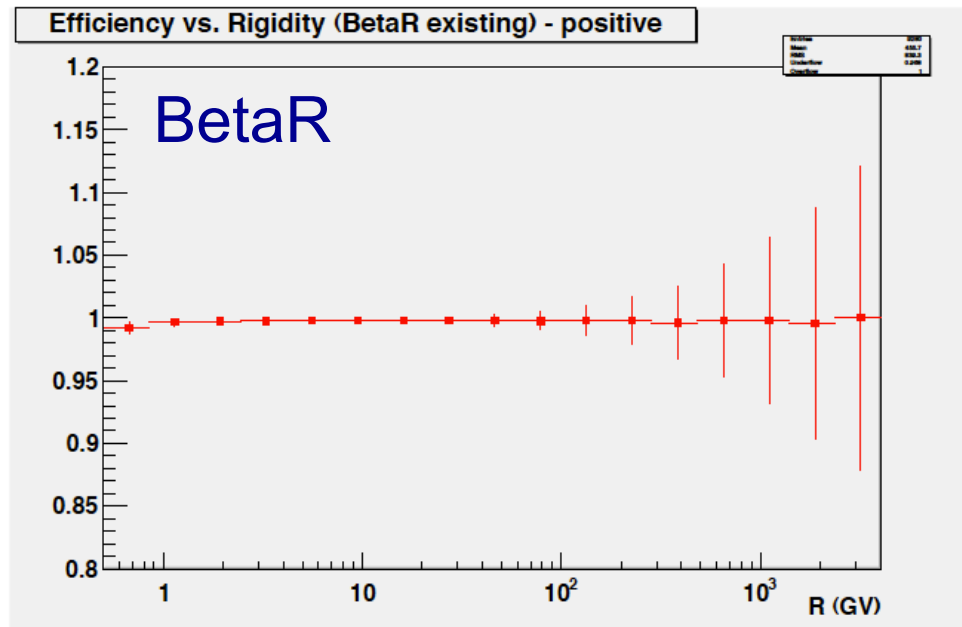
# 1/BetaR vs. 1/BetaH



# 1/BetaR vs. 1/BetaH (zoom)

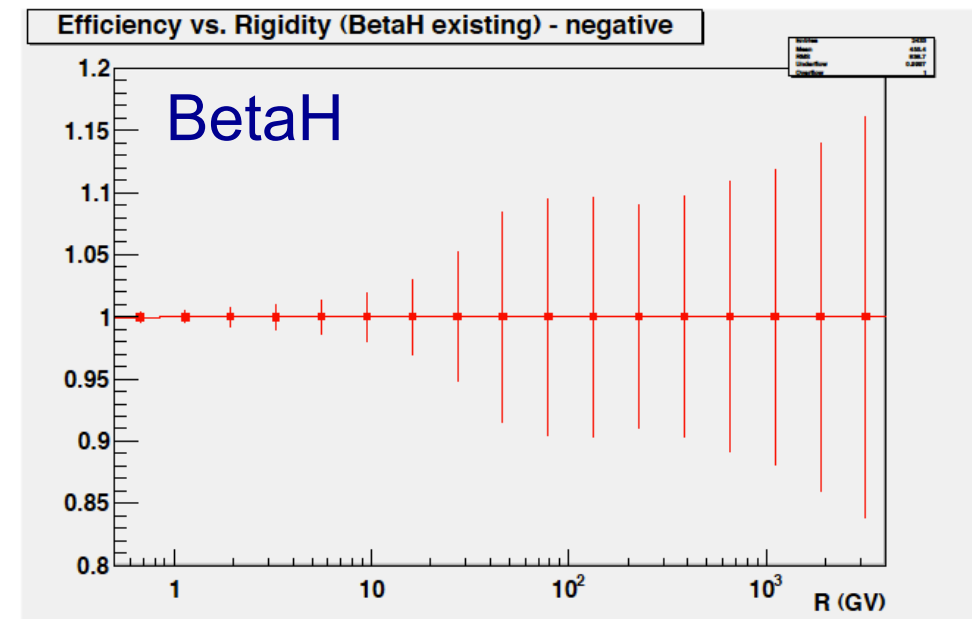
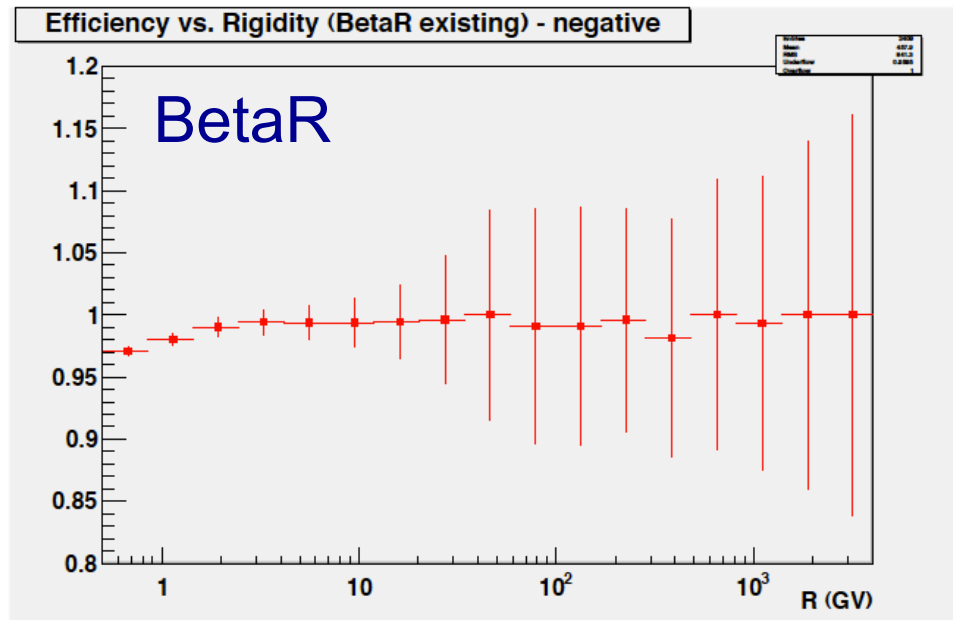


# Event reduction vs. rigidity – positive particles





# Event reduction vs. rigidity – negative particles



## Use BetaH

with:

```
#include "Tofrec02_ihep.h"
```

and:

```
TofRech::ReBuild(1); // before using BetaHR
```