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# Exclusive DPE at CDF: A Status Report

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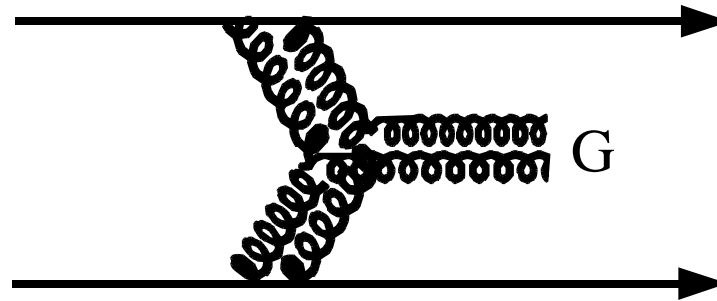
- Introduction
- CDF Detector
- Trigger Outline
- Current Status
- Future Plans

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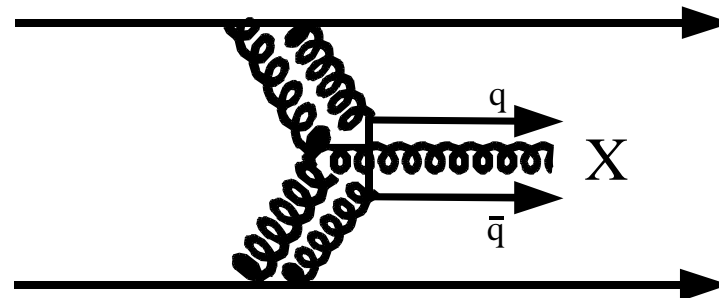
# Introduction

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- Glueball states



- Hybrid states



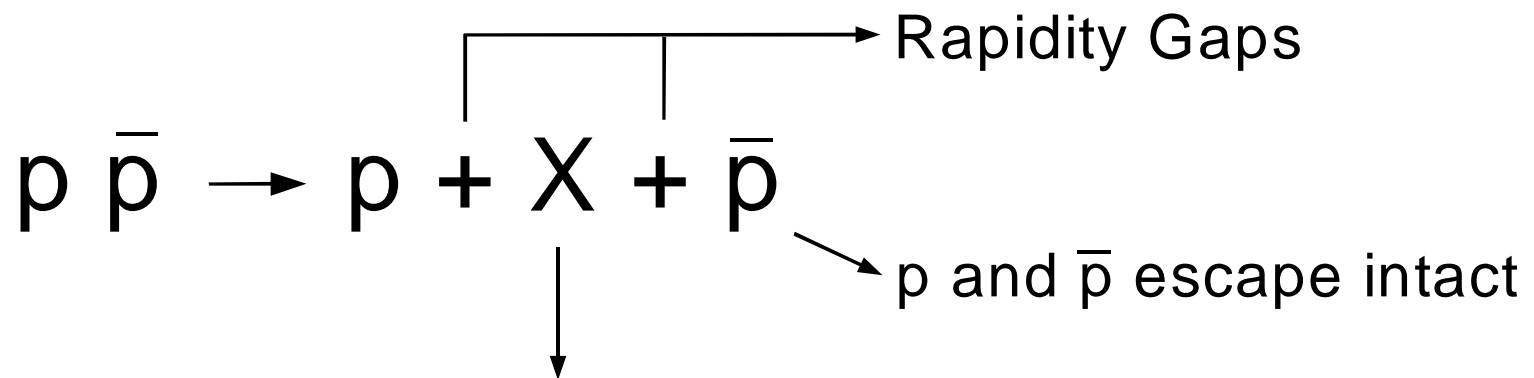
- Exclusive J/Psi (gamma) see Angela Wyatt's talk

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# Introduction

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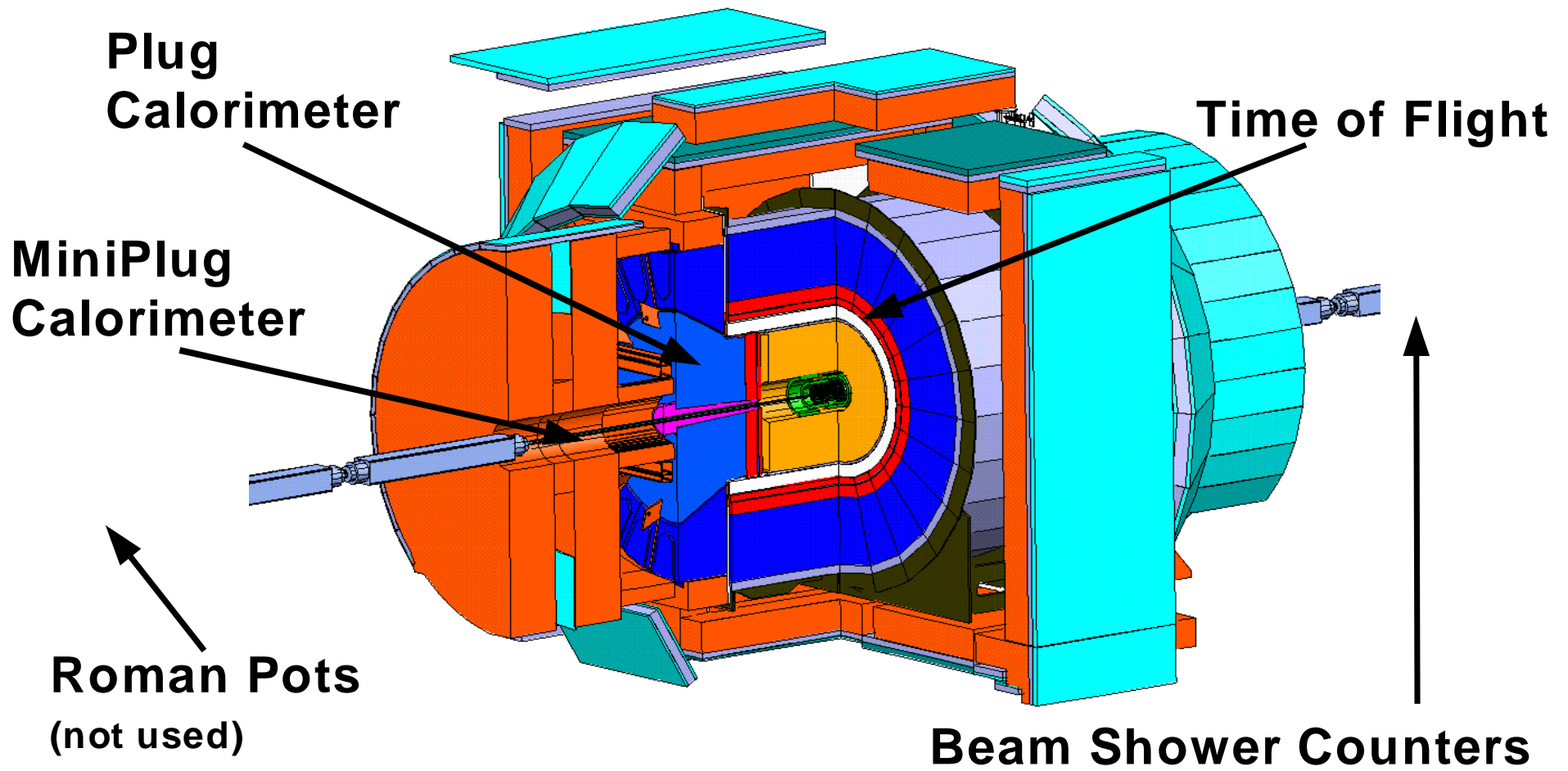
- Event topology



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# CDF Detector

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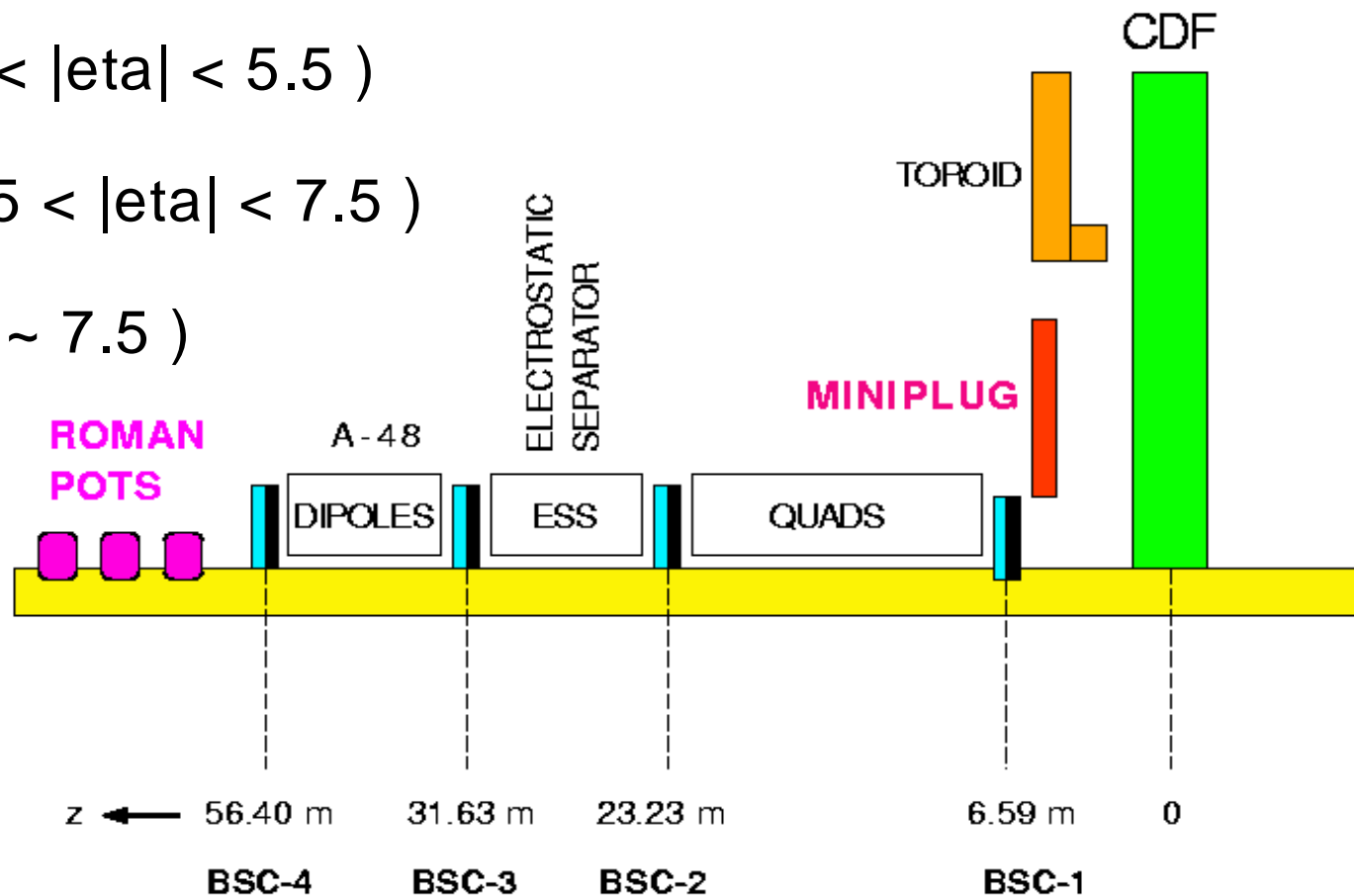


Sept. 18, 2003

A. Hamilton

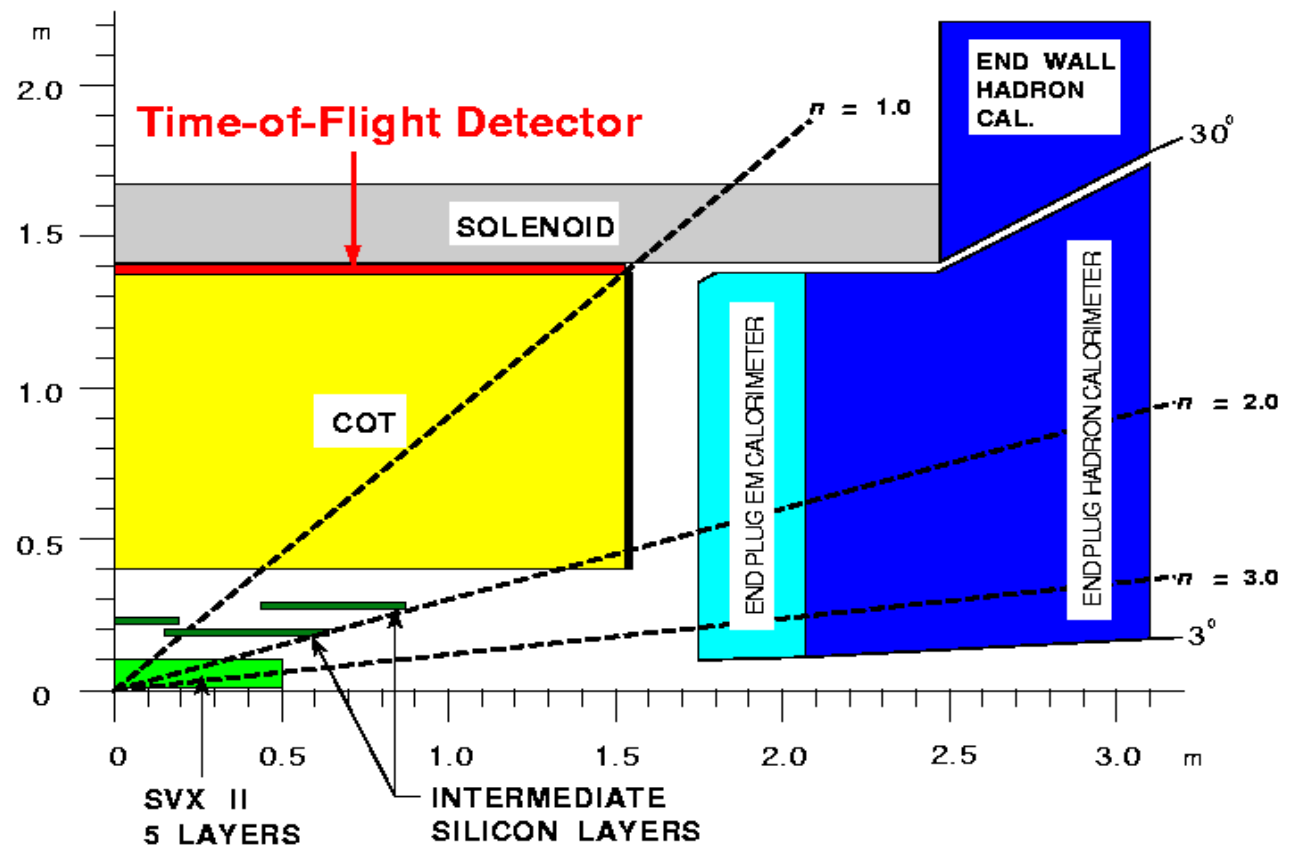
# CDF: Forward Detectors

- MP (  $3.5 < |\eta| < 5.5$  )
- BSC (  $5.5 < |\eta| < 7.5$  )
- RP (  $-\eta \sim 7.5$  )



# CDF: Time of Flight

- 216 bars
- $|\eta| < 1$
- $R = 140 \text{ cm}$



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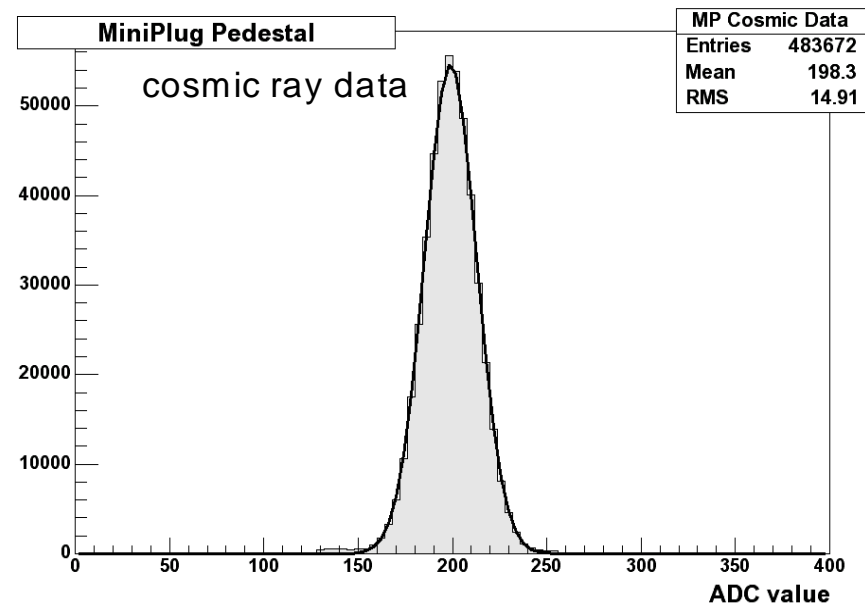
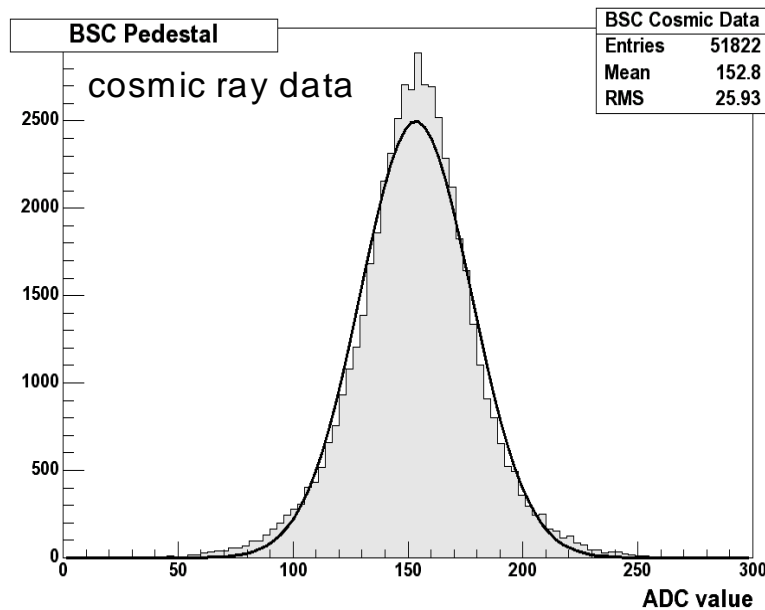
# Trigger Outline

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- CDF has a 3 level trigger system
  - Level 1: Forward Detectors and TOF
  - Level 2: Plug Calorimeter Veto
  - Level 3: Event Selection
- Total CDF Rate Limits
  - Level 1: ~25,000 Hz
  - Level 2: ~300 Hz
  - Level 3: ~75 Hz

# Current Status

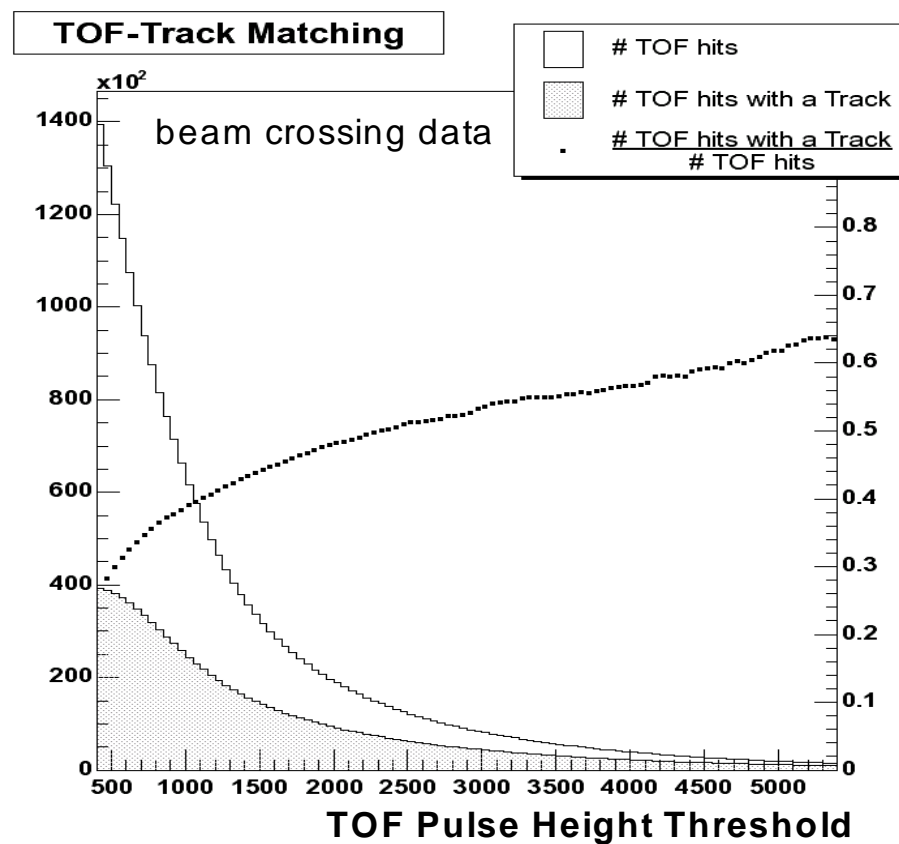
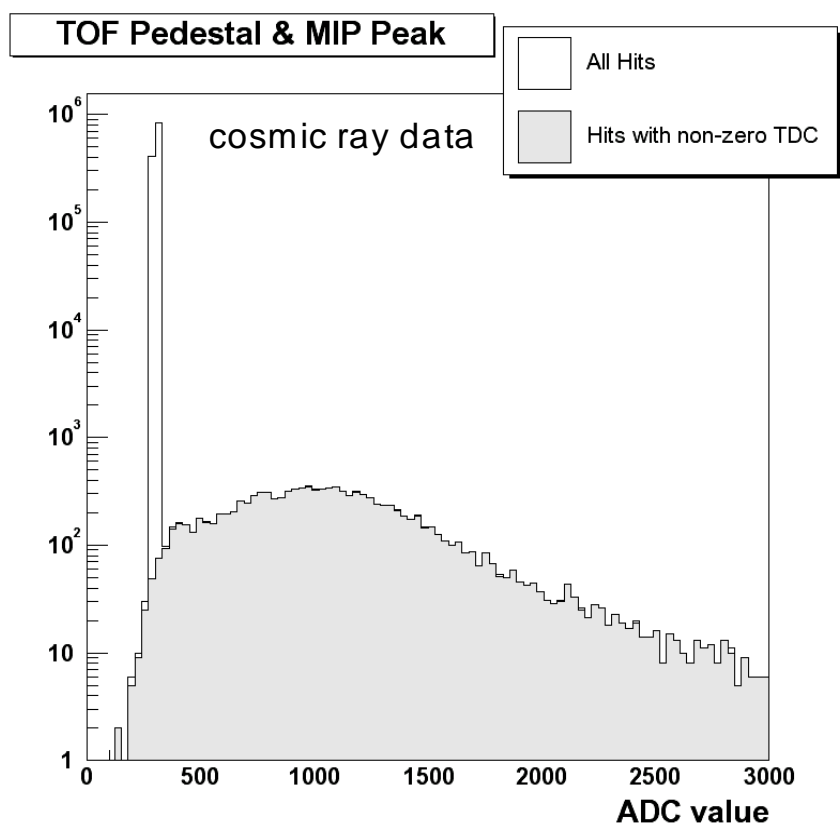
- Forward detector triggers understood
- Used in several gap triggers already



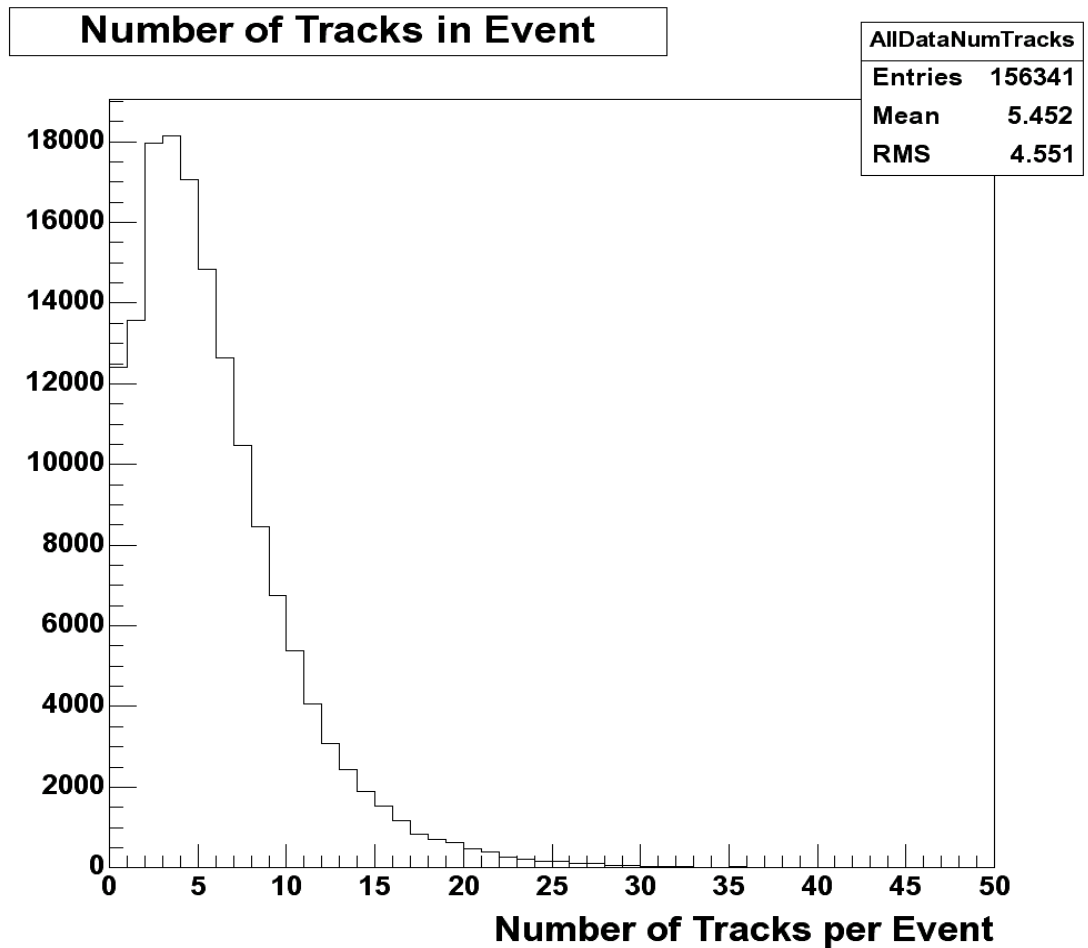


# Current Status

- TOF trigger not yet completely understood



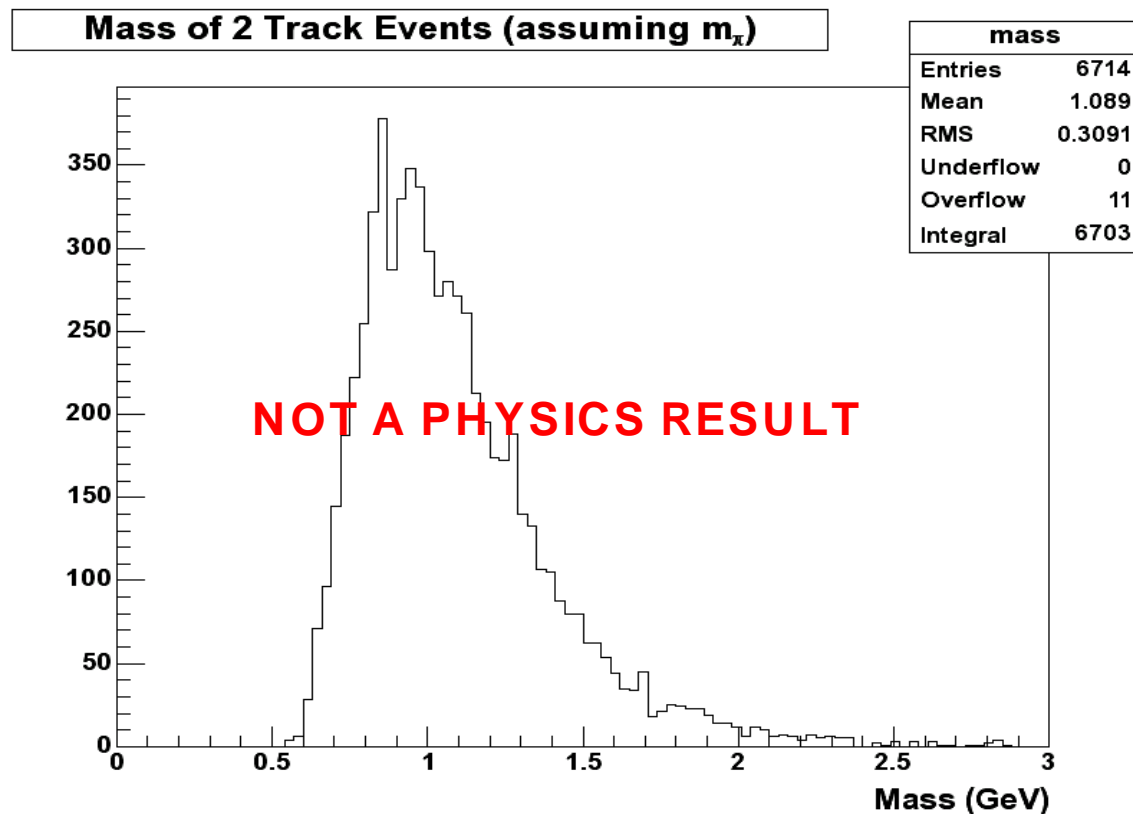
# Current Status



- July 12, 2003:  
L1 trigger test
- Rate limited  
~150 Hz

# Current Status

- This is raw data, **NOT PHYSICS**



To Show:

- Minimum mass acceptance  
~600 MeV
- Majority of 2 track events < 2 GeV

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# Future Plans

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- Finish understanding and optimizing L1
- Test L2 cuts
  - Can only cut on  $E_t$  clusters in plug calorimeter
- Design L3 Cuts
  - Can do just about anything

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# Future Plans

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- If trigger rate can be reduced to reasonable value, put the trigger into regular running.
- Major Problem: priority = 0 for low mass physics.
- Since the rate will be too high, we'll try to get some dedicated run time.
- Can get ~0.5 million events in ~3 hours.
- Bonus, we don't mind low luminosity.