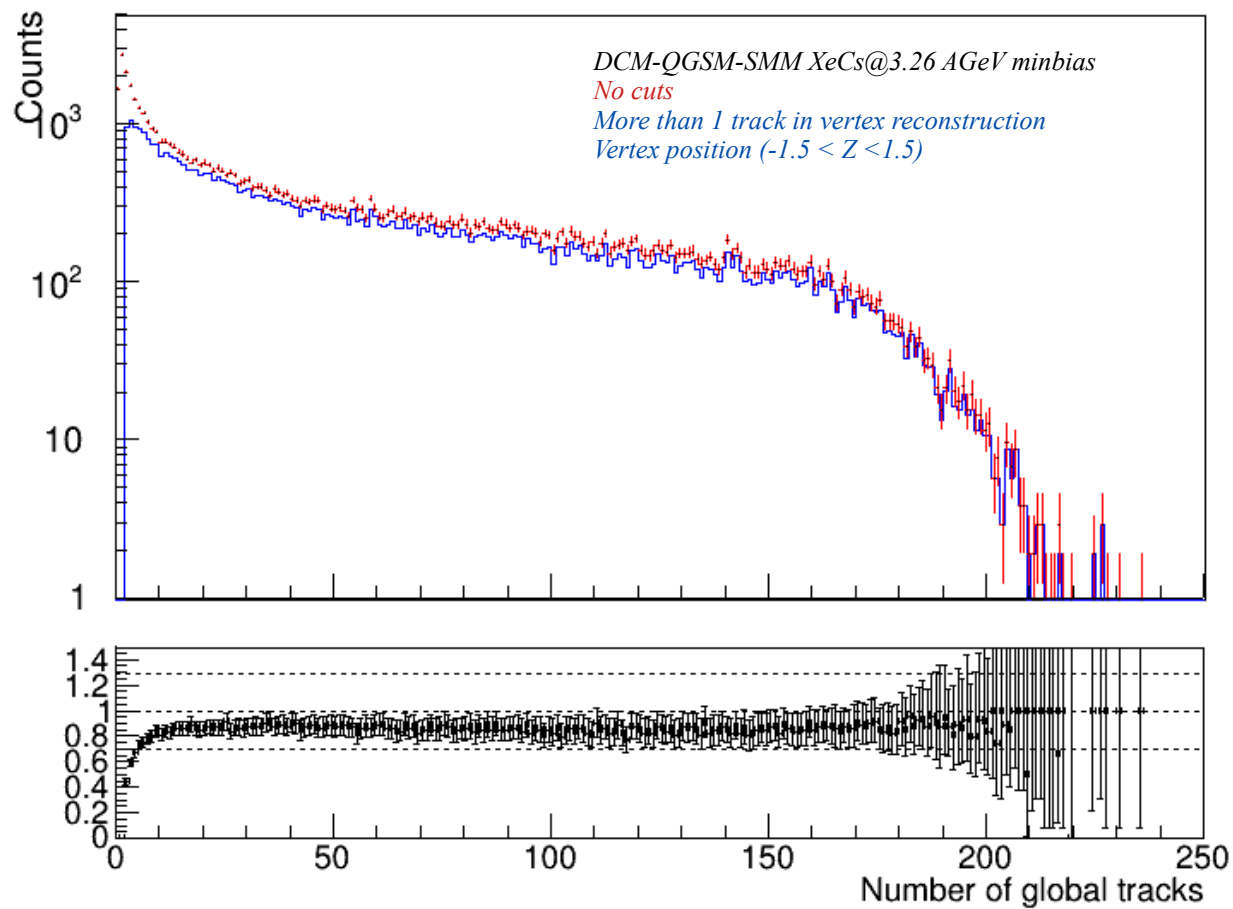


Статус подготовки программного обеспечения
для определения центральности по откликам передних детекторов

Николай Карпушкин
ИЯИ РАН

Berds meeting 24 April 2024

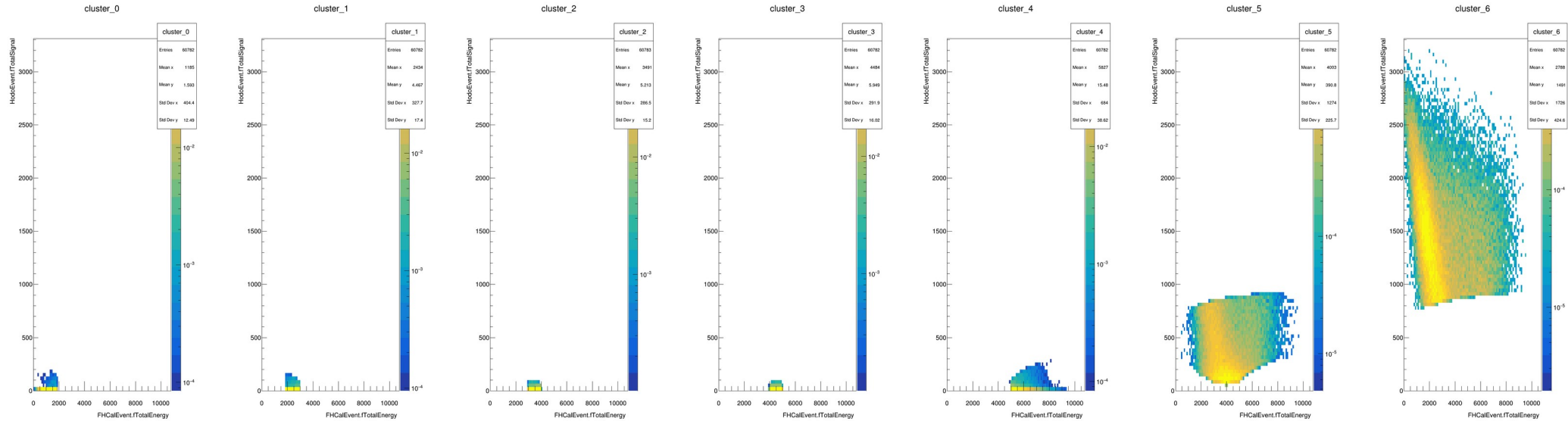
Учет эффективности восстановления вершины при определении центральности



Centrality determination: FQH&FHCAL correlation

XeCsI@3.8A GeV. MBT runs 7819, 7988, 8097

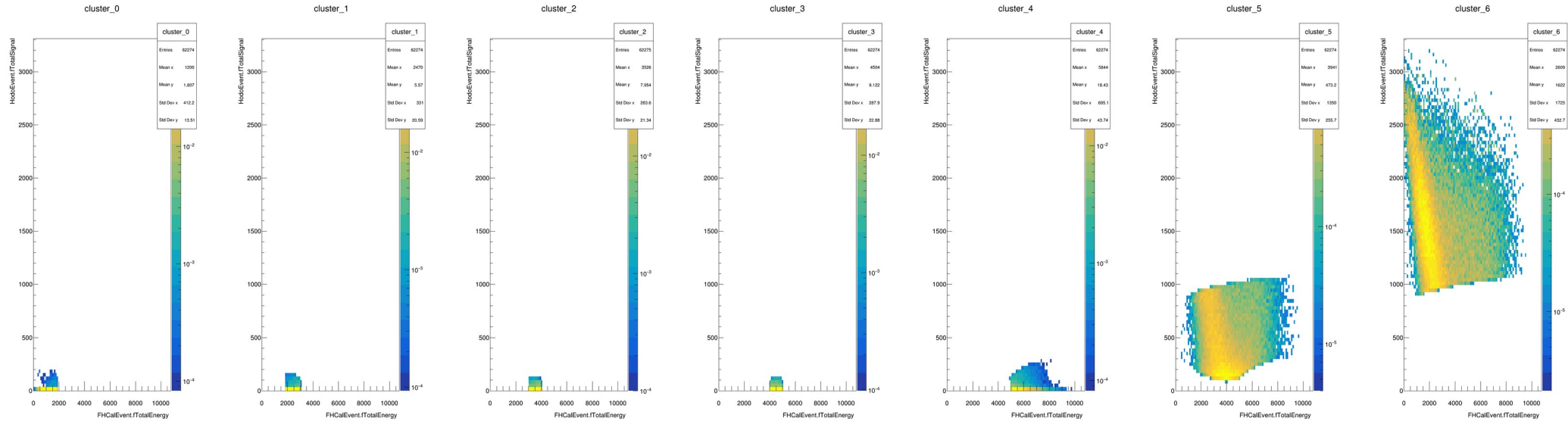
*More than 1 track in vertex reconstruction
Vertex position ($-1.5 < Z < 1.5$)
Eff Not Compensated &&
1 Xe ion by BC1S integral*



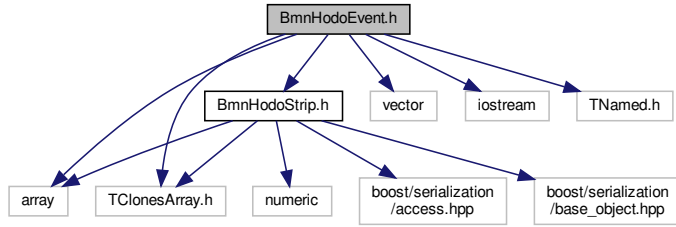
Centrality determination: FQH&FHCAL correlation

XeCsI@3.8A GeV. MBT runs 7819, 7988, 8097

*More than 1 track in vertex reconstruction
Vertex position ($-1.5 < Z < 1.5$)
Eff Compensated &
1 Xe ion by BCIS integral*

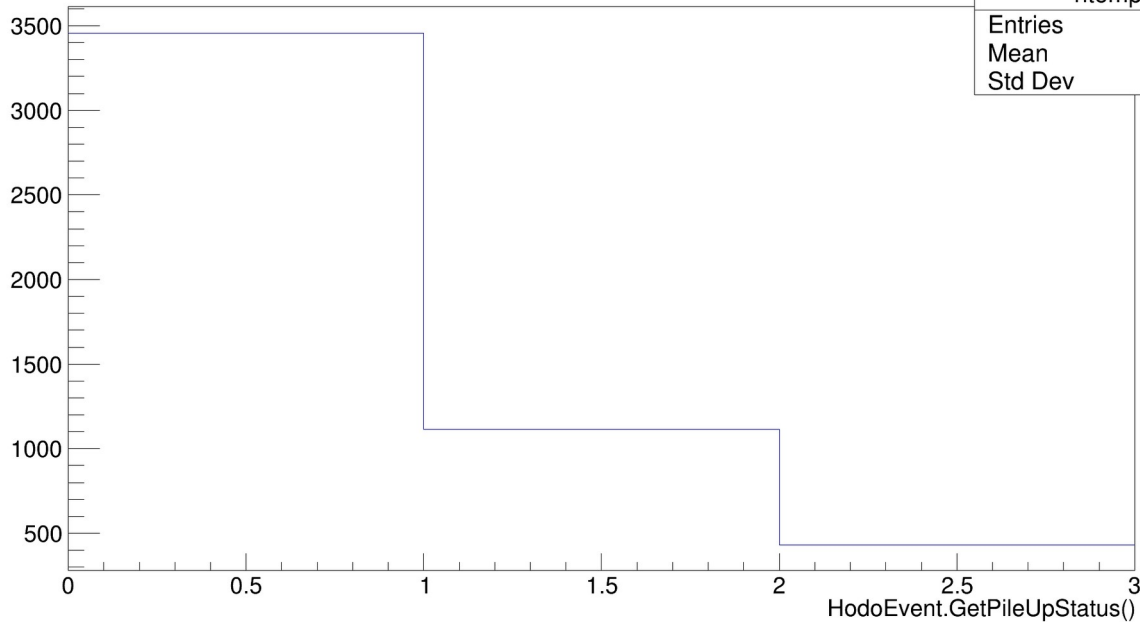


BACKUP



```
enum PileUp { No, Resolved, Unresolved }
```

HodoEvent.GetPileUpStatus()



Public Member Functions

```
virtual const char * GetClassName ()
```

```
BmnHodoStrip * GetStrip (uint8_t strip_id)
```

```
void SetStrip (uint8_t strip_id, const BmnHodoStrip &strip)
```

```
float GetTotalSignal () const
```

```
float GetTotalSignalIntegral () const
```

```
BmnHodoStrip::PileUp GetPileUpStatus () const
```

```
void reset ()
```

```
void ResetStrips ()
```

```
void SummarizeEvent ()
```

```
virtual void Print (Option_t *option="") const
```

Static Public Attributes

```
static const int fgkMaxStrips = 16
```

Detailed Description

Class for Bmn Hodo data container in event.

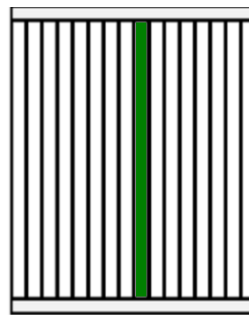
Discussing Limits

Constrains:

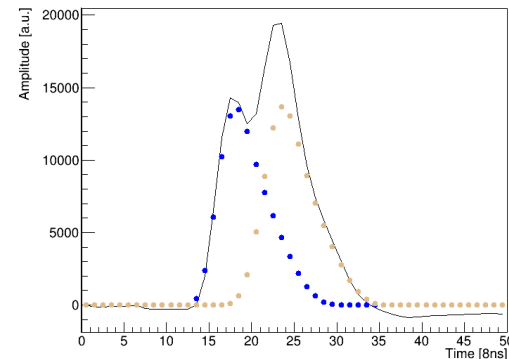
RL deconvolution iterations 100
 R2 convergence threshold 0.01
 Number of peaks 2



Resolving pileups
 with time
 difference of 50ns
 and more

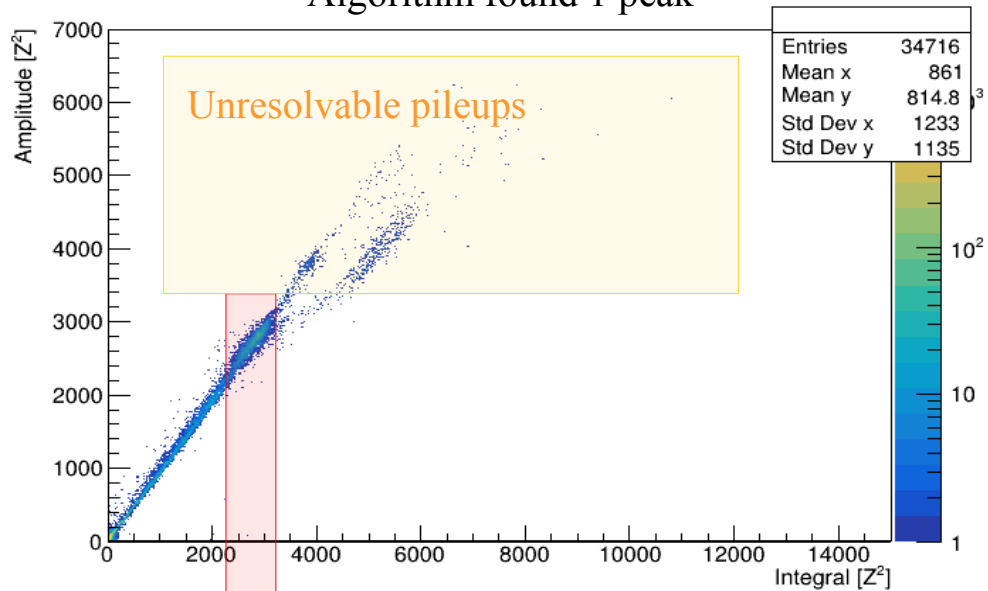


Strip #9



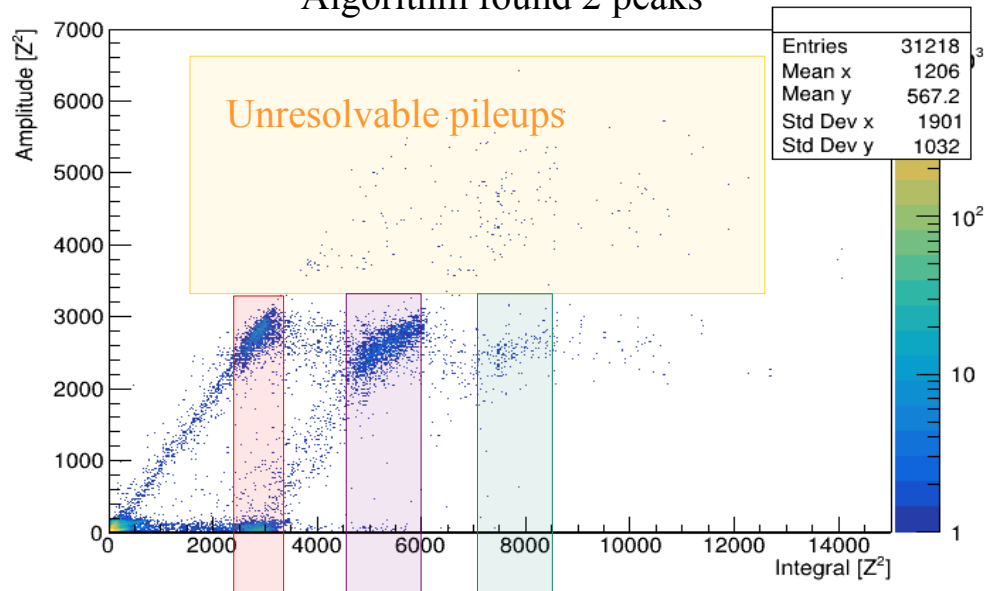
XeCsI@3.8 AgeV Minimum bias trigger (~70% most central events)

Algorithm found 1 peak



1 Xe

Algorithm found 2 peaks



1 Xe

2 Xe

3 Xe

Fraction of unresolvable pileups is ~2%