Status of
the FPCCD software

Physics and Software meeting

2011/02/04
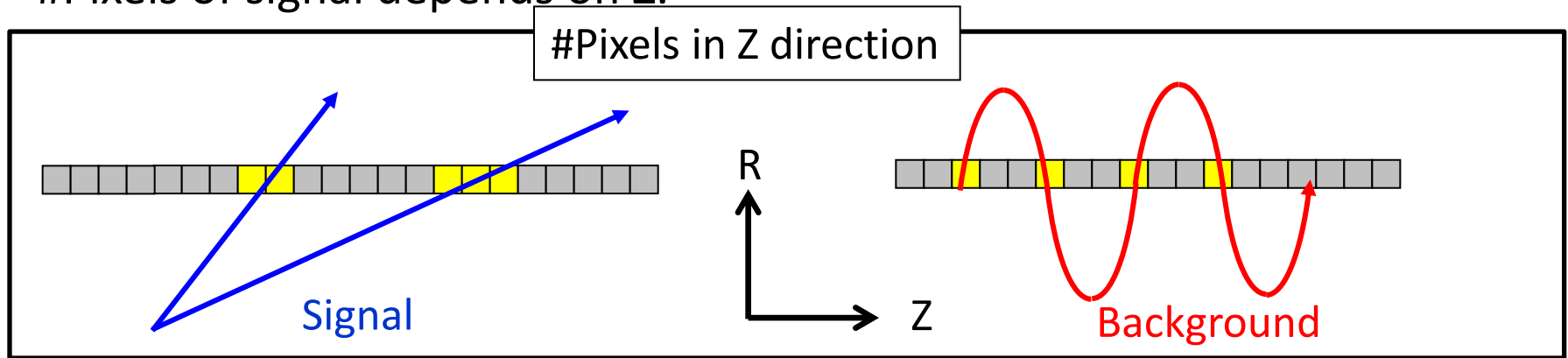D.Kamai (Tohoku University)

Tracking study

■ To check the resolution under the background is necessary to estimate the other parameters (tag efficiency, charge ID performance).

— Tracking tt event together with 1 train pair background was tried.

— Because of many clusters, to analyze many events is difficult.

— Background rejection using cluster shapes was tried before tracking.

Cluster width

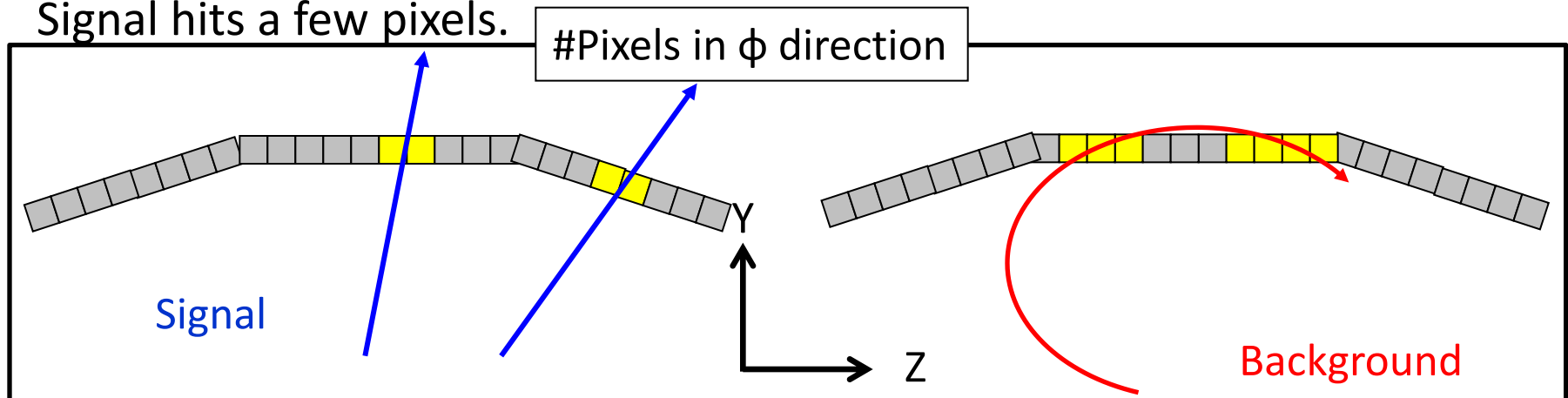■ Cluster width in z and φ direction are used to reject background.

<u>Z dependence of #Pixels in Z direction</u>

• #Pixels of signal depends on Z.

#Pixels in Z direction

R

Z

Signal

Background

<u>#Pixels in φ direction</u>

• Signal hits a few pixels.

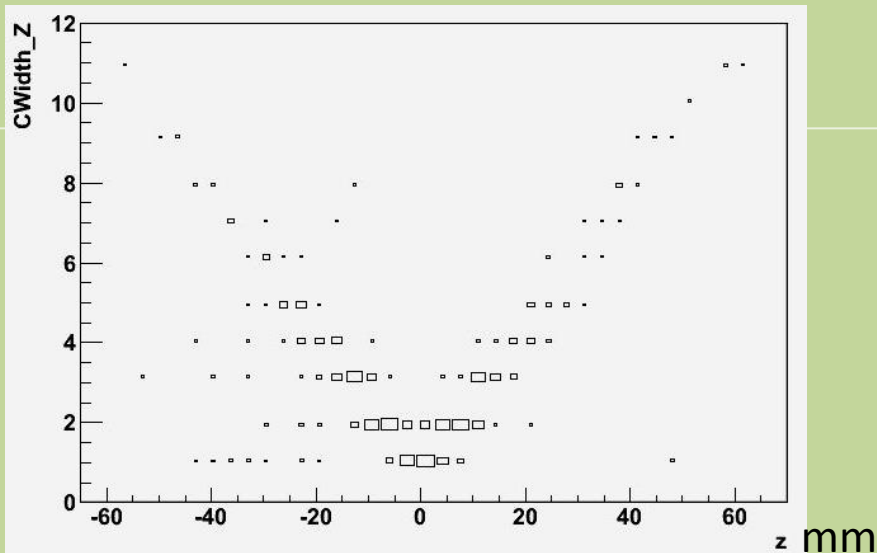#Pixels in φ direction
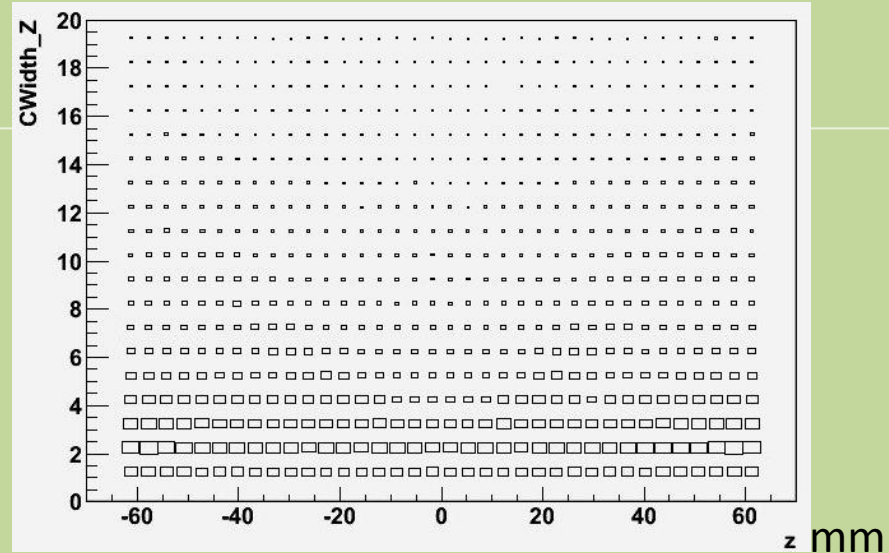
Y

Z

Signal

Background

Z dependence of cluster width in Z

■ Z dependence of cluster width in Z direction was checked.

Cluster width in Z direction vs Z for layer1a
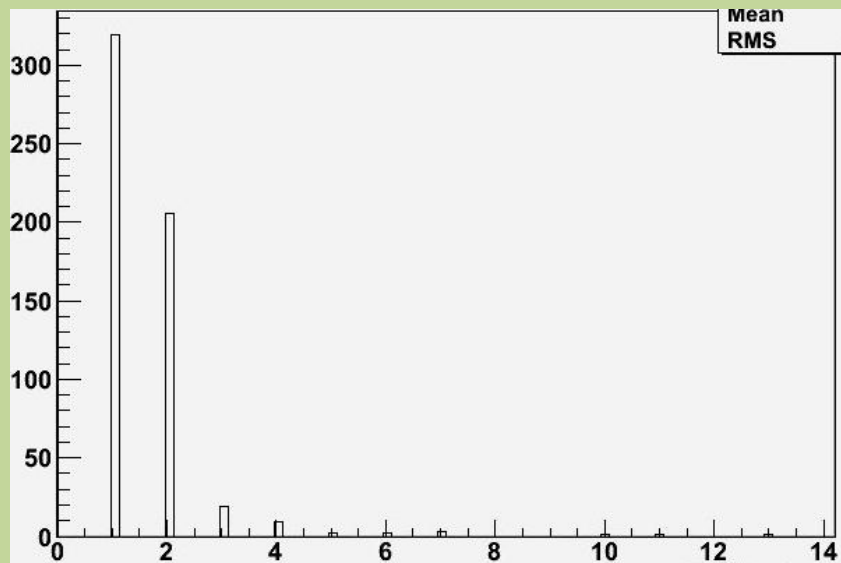
350 GeV tt→bbqqqq

500 GeV Pair background

• There are the distribution proportional to Z for tt event.
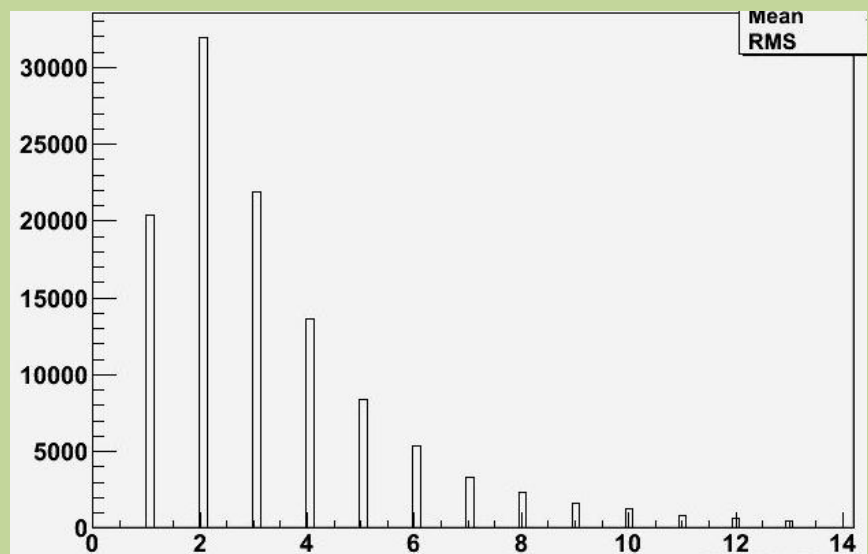
Cluster width in ф direction

■ Cluster width in ф direction was checked.

Cluster width in ф direction for layer1a

350 GeV tt→bbqqqq

500 GeV Pair background

• The tt event hits a few pixels in ф direction.

Summary/Plan

- Tracking study

    — Background rejection using cluster shapes was tried before tracking.

    — There were characteristic distribution in tt event.

    — Conventional algorithm will help to suppress background hits.

    — IP resolution under background will be checked.