

# Status of the Strip Clustering

K. Kotera, Shinshu university

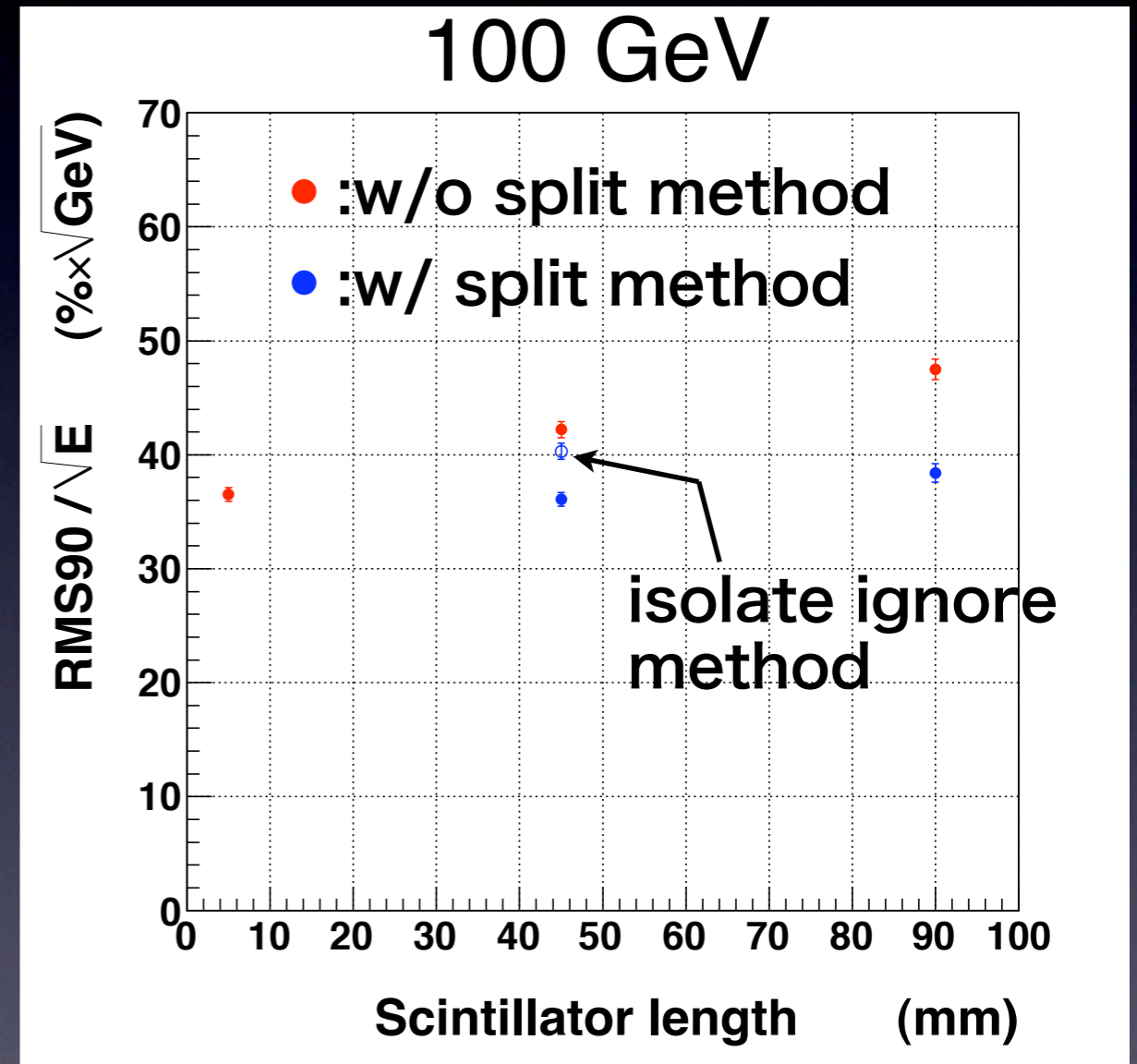
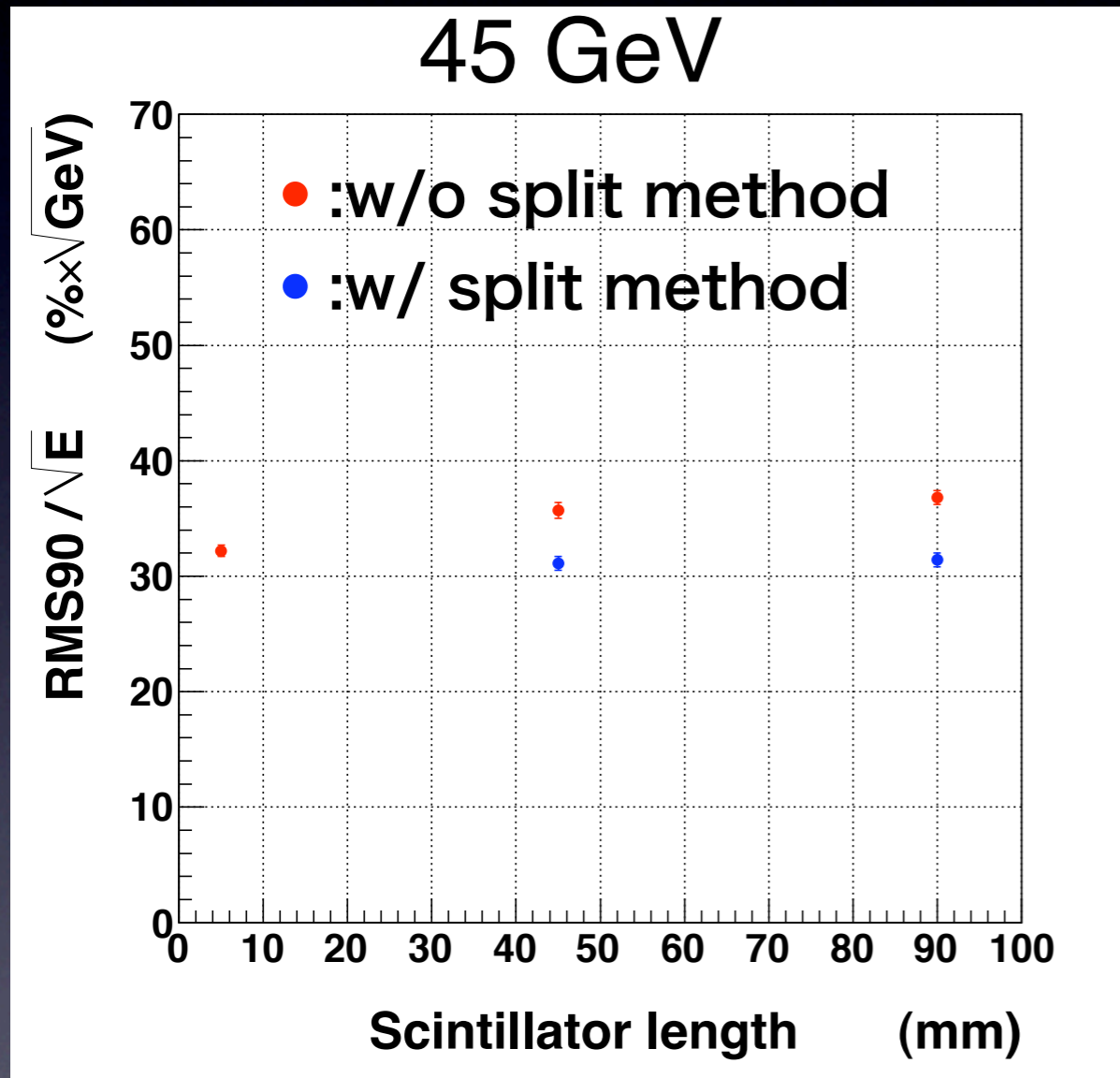
Physics and Software meeting of ILD Asia

30th July 2010

# Sc. length dependence of the Jet energy resol.n

Scintillator width = 5 mm

Using "Center method": Energies in isolate hits are put on the center of strip.



- For 45 GeV Jets, the energy resolution (JER) is kept with split method for 90 mm scintillator strips.
- For 100 GeV jets, degradation of JER already starts with 90 mm strips.

# summary of this talk

- 45 mm x 5 mm strip ScECAL with Split method has the same energy resolution (JER) as the one with 5 mm x 5 mm the square ScECAL not only for  $\sqrt{s} = 91$  GeV but also for  $\sqrt{s} = 200$  GeV.
- With even Split method, degradation of JER already starts with 90 mm strip ScECAL for  $\sqrt{s} = 200$  GeV events, while it is still kept with 90 mm strip for  $\sqrt{s} = 91$  GeV events.

# ToDo

- Go into  $\sqrt{s} = 360 \text{ GeV}, 500 \text{ GeV}$
- To see the limit length of strip to keep the best JER (depending on  $\sqrt{s}$ )
- Tune PandoraPFA parameters to get same or better Jet energy resolution as the M. Thomson's analyses. 30% / 25%
- Fix the problem with Druid (calorimeter hits after split method cannot be seen in Druid, even PFOs are reconstructed)
- Write code for the Endcap hits
- Boundary treatment
  - Stave - Stave, Module - Module, Endcap - Barrel
- Fine Tune of Split method ( to try some new ideas)
- Check the performance of Triplet method
- Use new Mokka ( it intrinsically has strip shape ... )

# Sc. length dependence of the Jet energy resol.n

