S-2S meeting (簡単なレポート)

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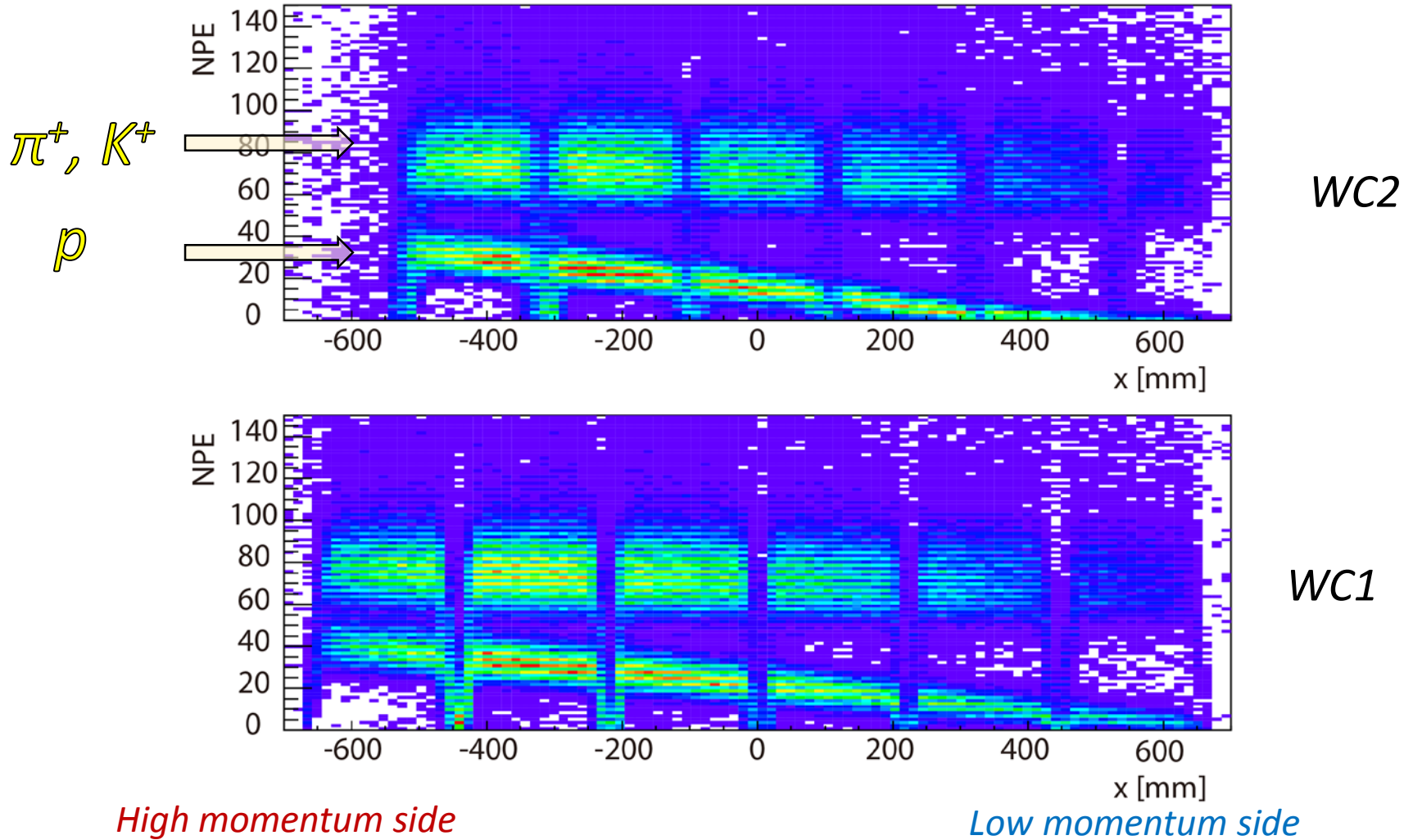
明けましておめでとうございます
今年もどうぞよろしくお願い致します！！

Contents

p rejection efficiency by WC cut

NPE vs. x@just before WC

(Only electromagnetic processes)

π^+, K^+

p

WC2

WC1

High momentum side

Low momentum side
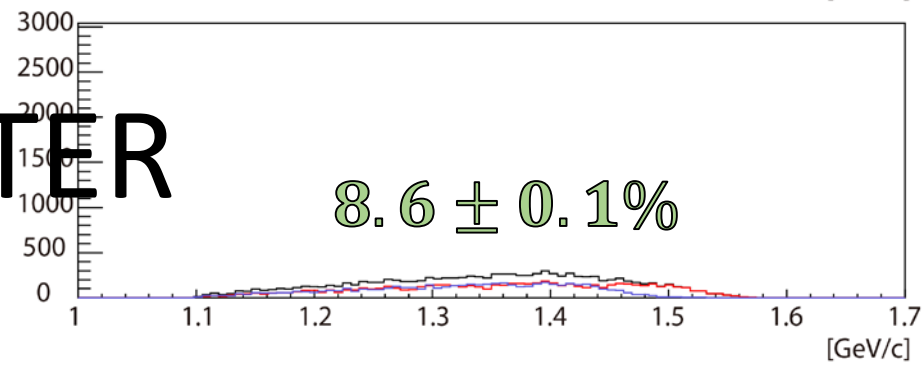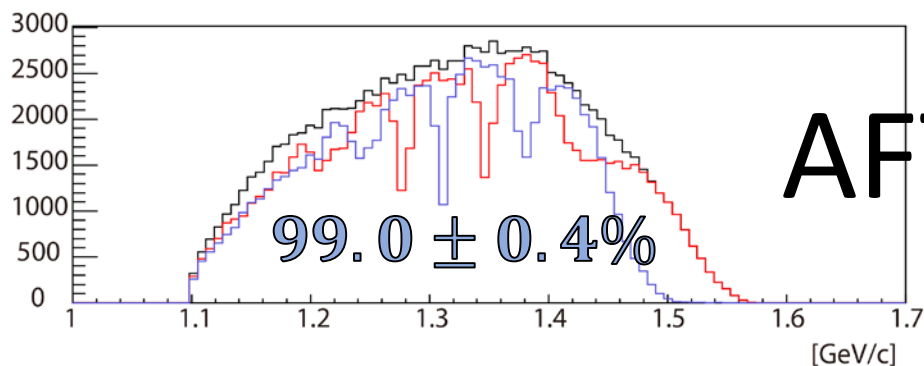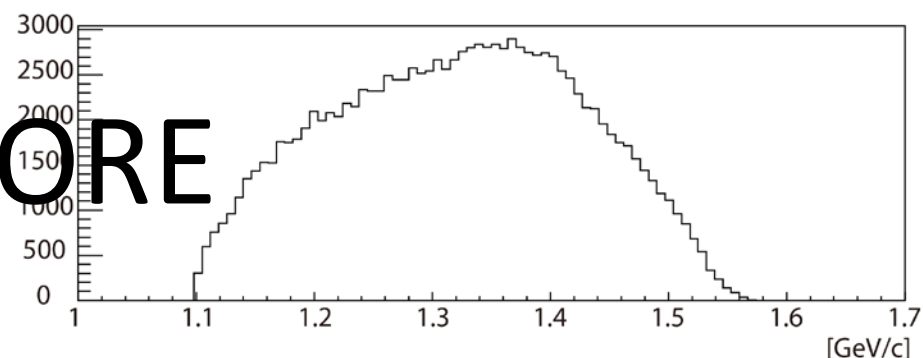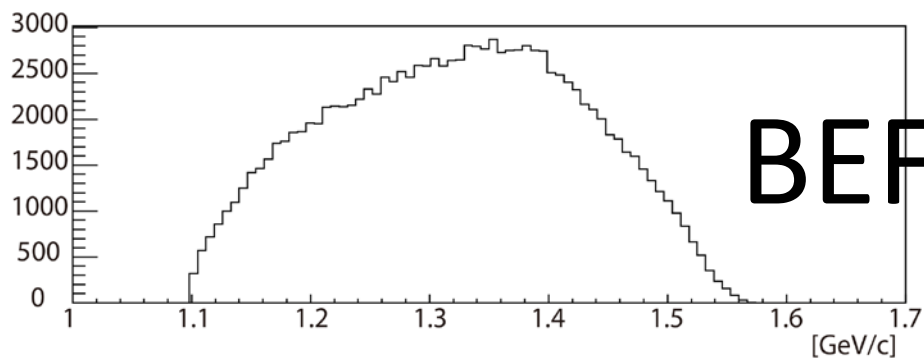
Conditions

Simulation conditions

1. Momentum: Uniform
2. Angle: Spherical uniform (0 – 0.25 rad)
3. Only electromagnetic processes
4. Mean NPE for $\beta=1$ particle: 40 for one PMT

Cut conditions

1. Hit on TOF
2. WC NPE cut: (NPE1 >50 || NPE2 > 50)

Momentum distribution before and after WC NPE cut

- **Hit on TOF**
- **WC NPE cut: (NPE1 >50 || NPE2 > 50)**

BEFORE

AFTER

$99.0 \pm 0.4\%$

$8.6 \pm 0.1\%$

K^+

p

Summary

If NPE for $\beta=1$ is 40 (for one PMT)

p rejection efficiency: 91%

K^+ survival ratio: 99%

Outlook

1. *p* rejection efficiency estimation taking into account:
   - ☐ Decay processes
   - ☐ Hadronic reactions

   (quick simulation → almost no effect)

2. Assumption change

   from NPE: 40 (Normal acrylic window)

   to NPE: 100 (UVT acrylic window)