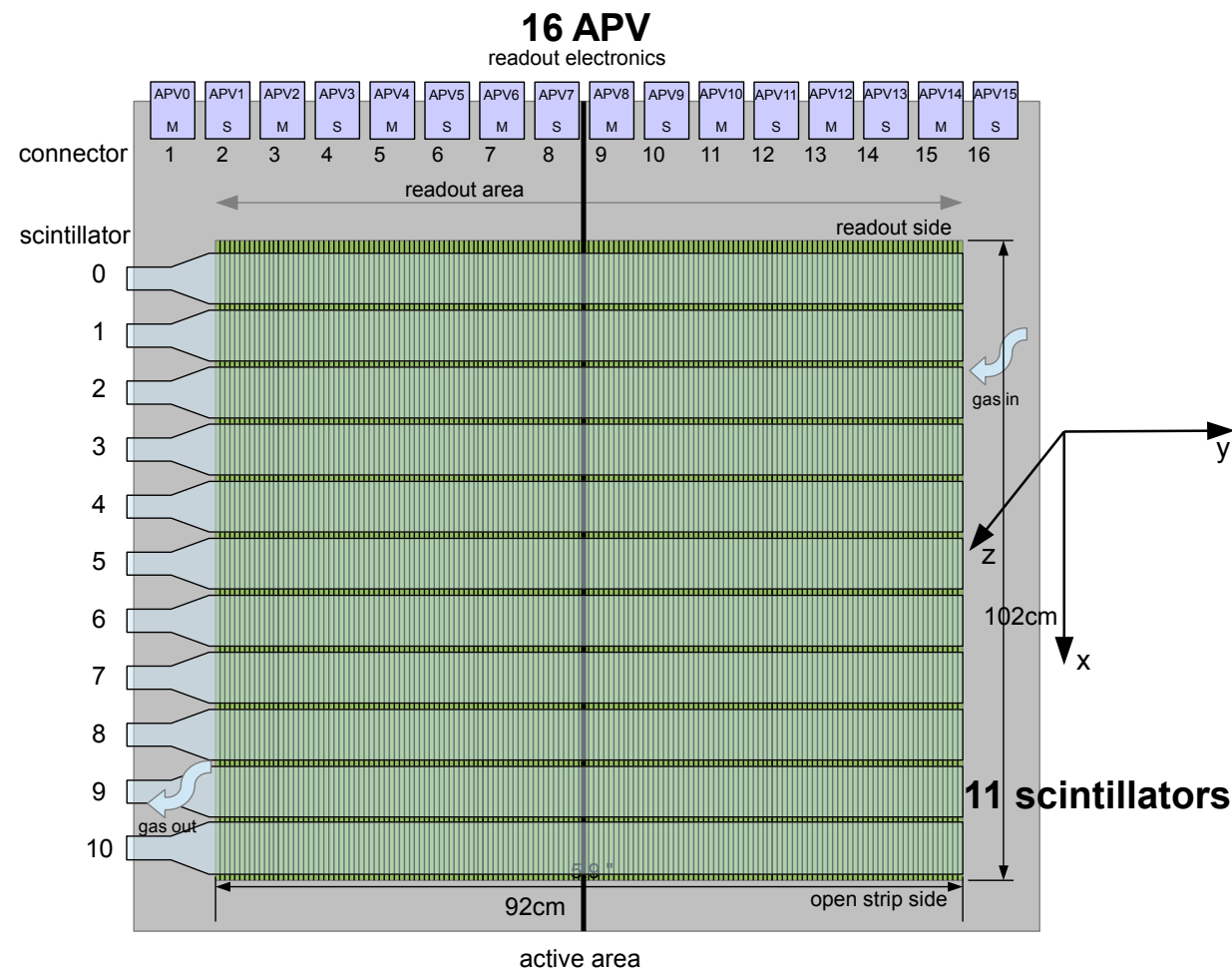


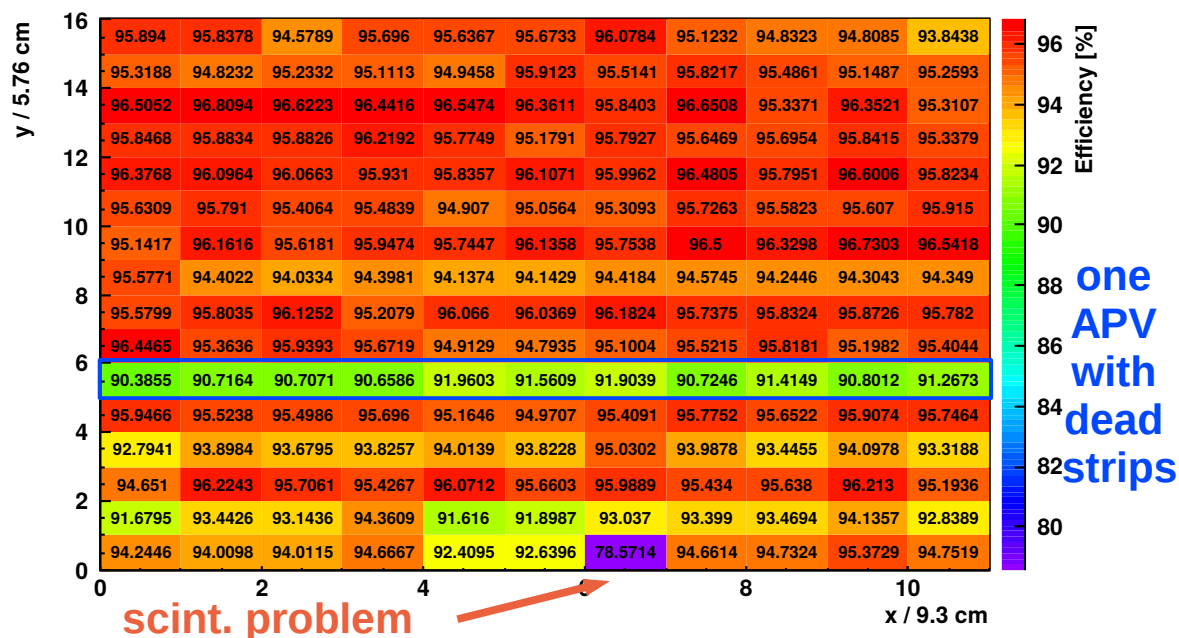
Micromegas Chamber under Investigation



- Active area: $92 \times 102 \text{ cm}^2$
- Gas: Ar:CO₂ 93:7 @ atmospheric pressure
- 16 APV25 frontend-boards with 128 readout channels each
→ 2048 readout channels
- 11 scintillators perpendicular to readout strips
→ second coordinate $\Delta x \approx 9.3 \text{ cm}$
- Subdivision of detector in 16 APV \times 11 scintillators = 176 partitions
- Readout plane composed of two 46 cm broad PCB sheets

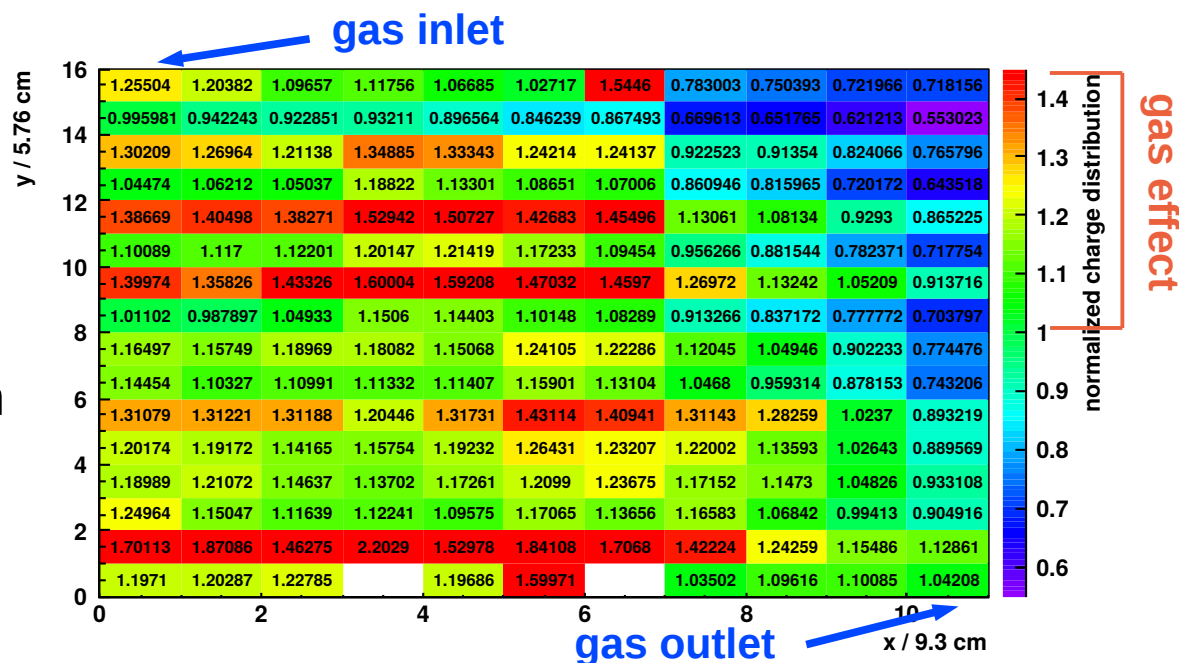
Efficiency and Pulse Height Distribution

- High efficiency over whole active area of $(94.9 \pm 0.9) \%$
- Despite many dead channels in one APV homogeneous efficiency distribution



one APV with dead strips

- Pulse height for each partition normalized to total pulse height
- Homogeneous with RMS of 10 %
- In upper right part lower pulse height due to reduced gas circulation



gas effect

Mechanical Deformations

- Inclined muon tracks:
 - Determination of z-position of middle plane of drift gap
 - Bulging due to small overpressure
 - Deviation 0.8 mm from plane
→ 1.6 mm at drift cathode
(stiff base plate support)
- Perpendicular muon track:
 - Determination of y-position of readout strips
 - Visible shift between two PCB sheets due to glueing process

