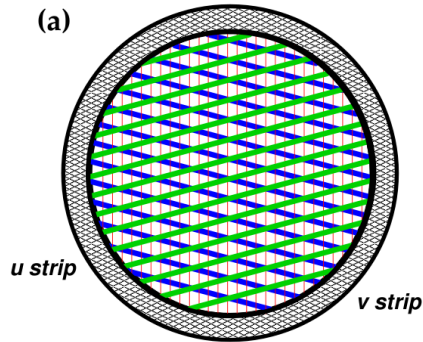




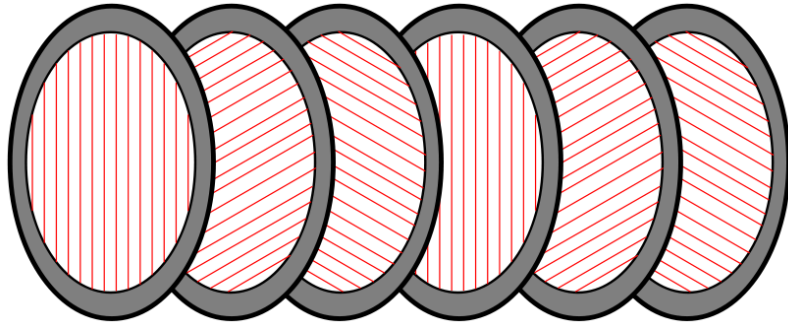
# FDC Performance Plugin

Alexander Austregesilo

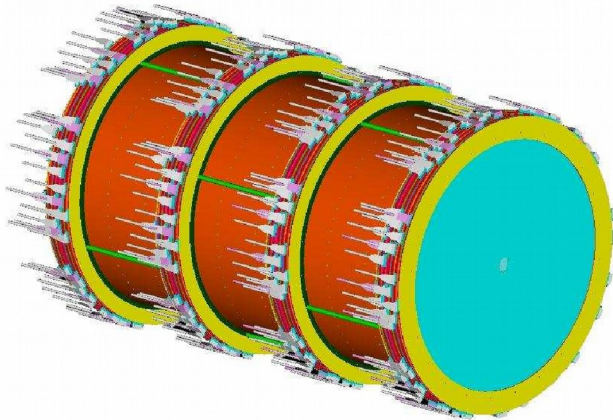
# Detector Overview



**Cell:** Wires + 2 Cathode Layers

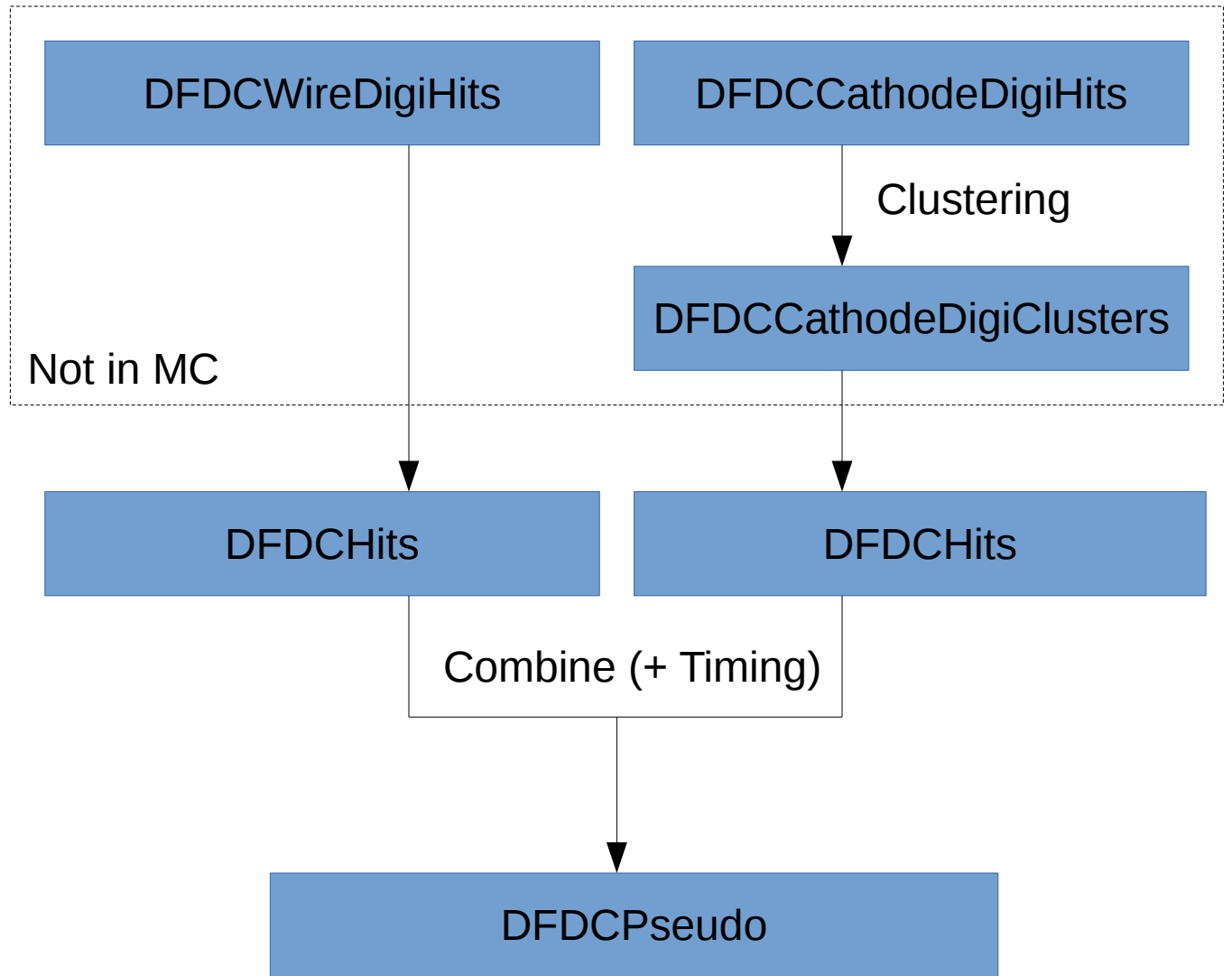


**Package:** 6 Cells



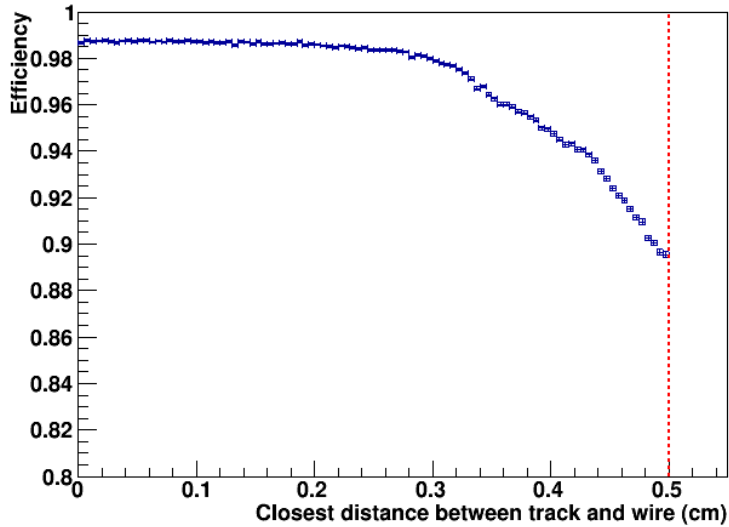
**FDC:** 4 Packages = 24 Cells

# Reconstruction Overview

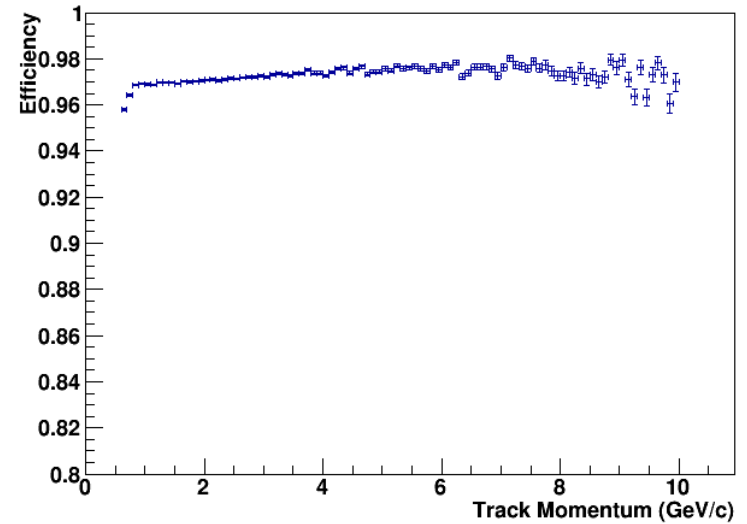


# (DFDCHit) Wire Efficiency

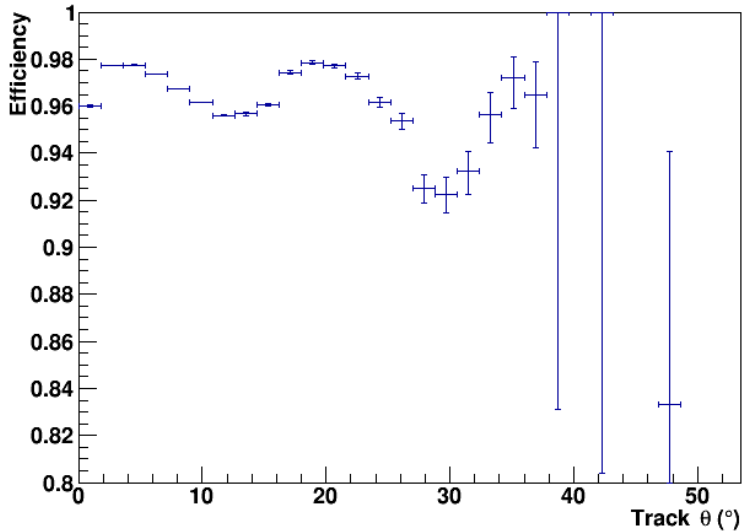
FDC Per Wire Efficiency Vs. DOCA



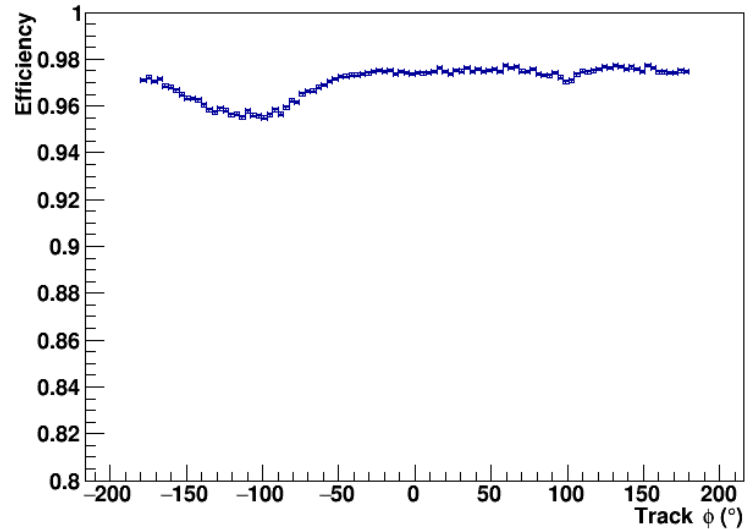
FDC Per Wire Efficiency Vs. p



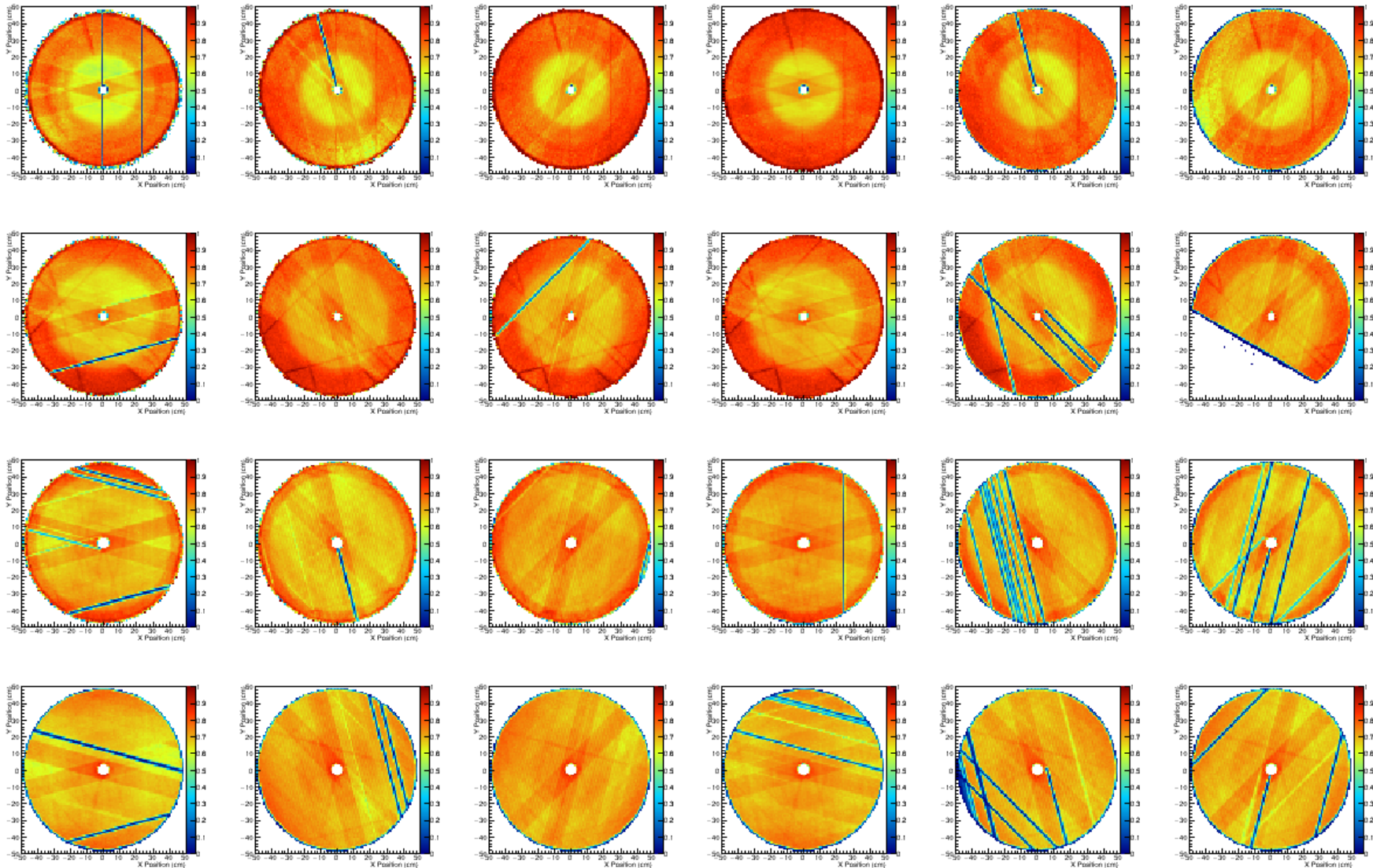
FDC Per Wire Efficiency Vs.  $\theta$



FDC Per Wire Efficiency Vs.  $\phi$

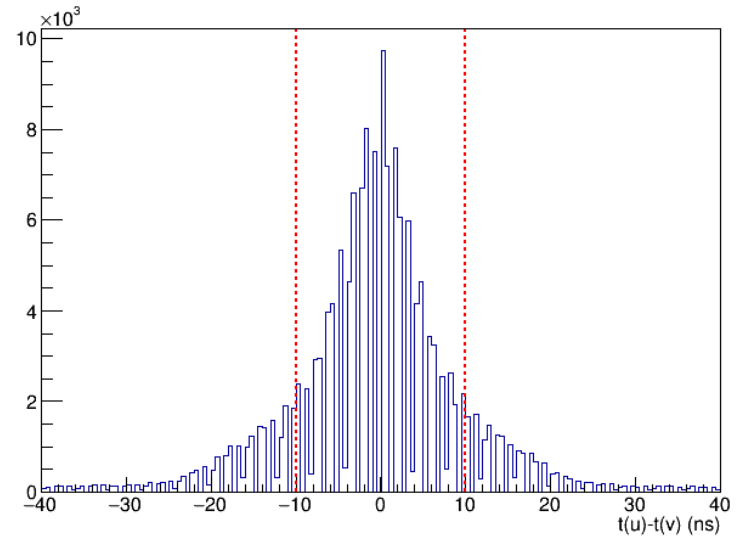
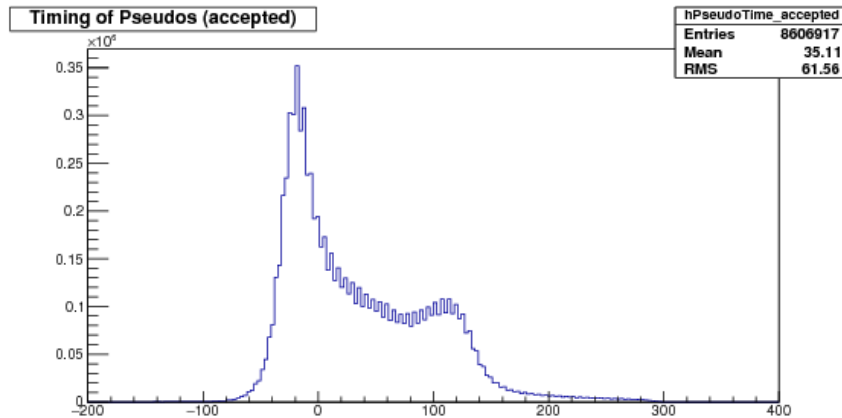


# (DFDCPseudo) Efficiency

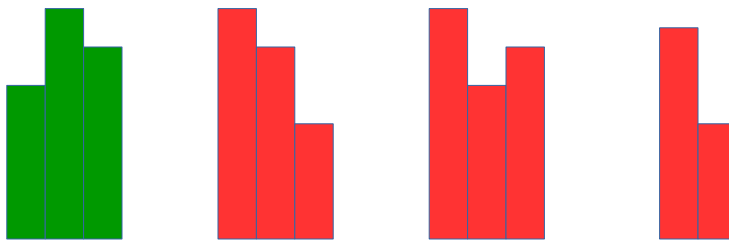


# Pseudo Hit Factory

- Timing Cut between U and V strips too narrow
- Wire time not calibrated  
→ Wire time not used at all

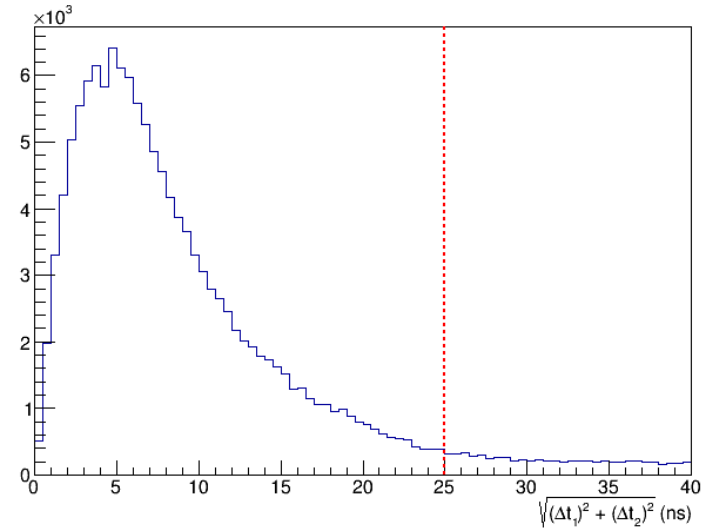
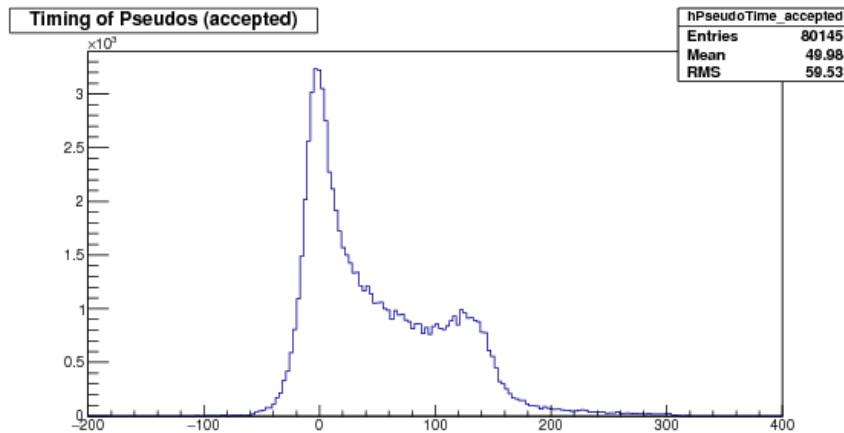


- Only certain types of strip clusters

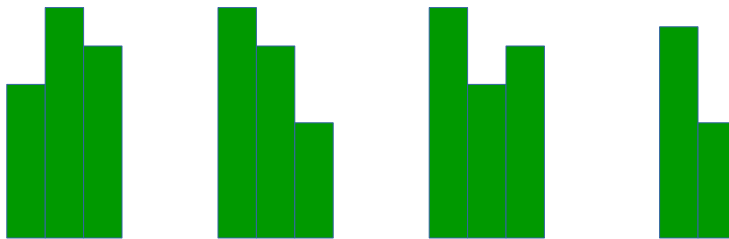


# Pseudo Hit Factory

- Timing Cut between U and V strips too narrow ✓
- Wire time not calibrated ✓ (almost)  
→ Wire time not used at all ✓

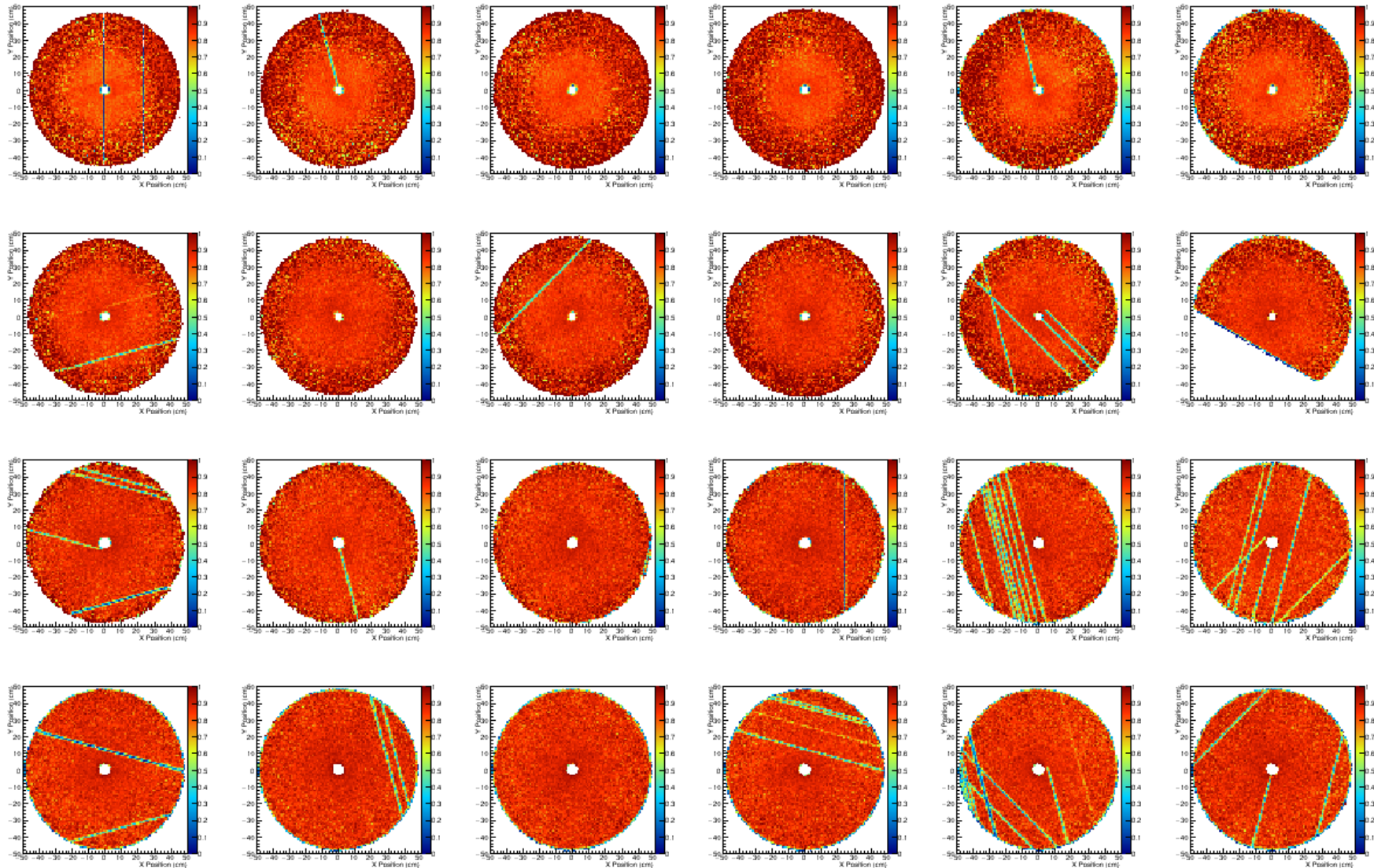


- Only certain types of strip clusters ✓



Efficiency 69.1% → 84.3%  
Increase of # of Pseudos: 16%

# (DFDCPseudo) Efficiency





# Summary

## Conclusion:

- Performance study included in REST production
- Histograms used to calibrate timing of cathodes and wires
- Improved Pseudo\_factory  
=> Higher and more uniform Efficiency

## Next steps:

- Timing info in tracking (done?)
- Comparison with MC
- Run-dependent performance study