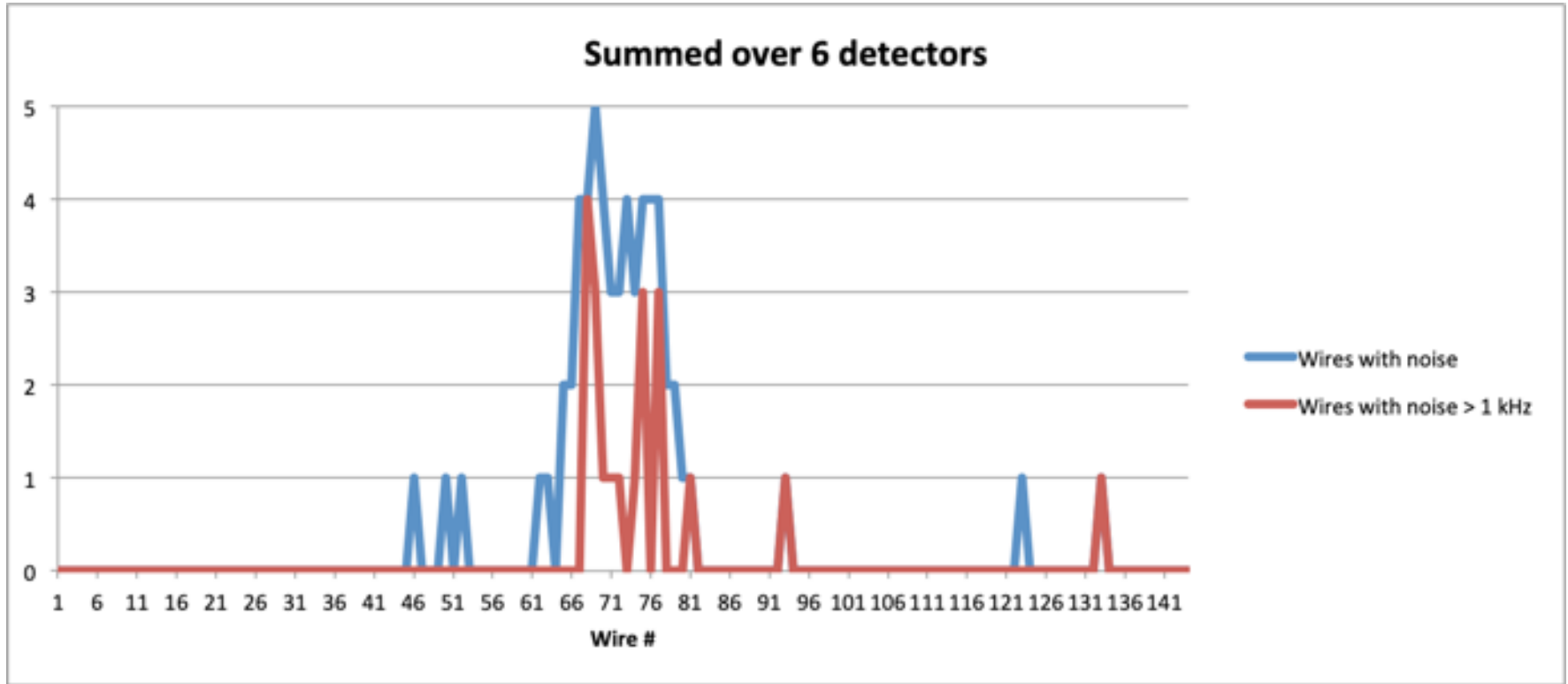


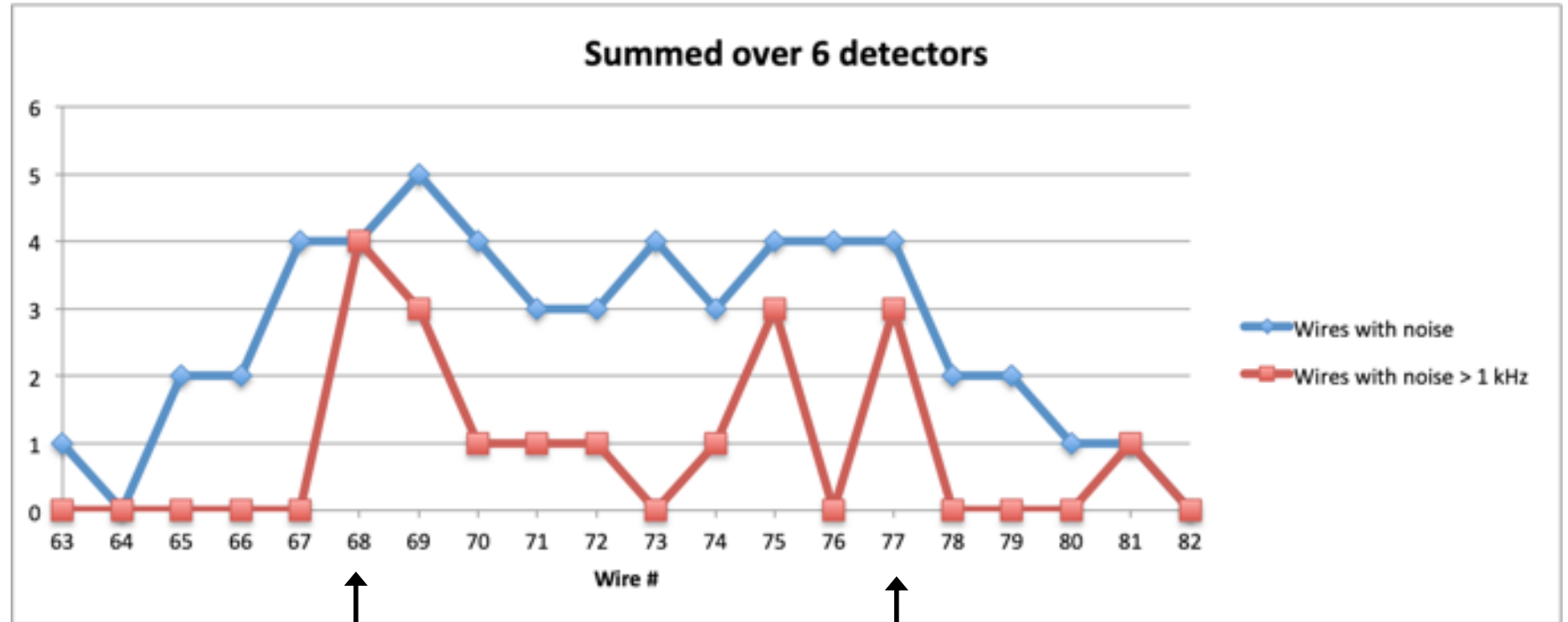
MWPCs for CPP Update

- Assembled and tested 6 detectors
- Tested chambers with 90:10 mixture by volume of Argon:CO₂ at +1800 V, corresponding to an approximate gain of 10⁵
- Detector #7 is assembled. Testing will start next week

Wires with avalanche discharge



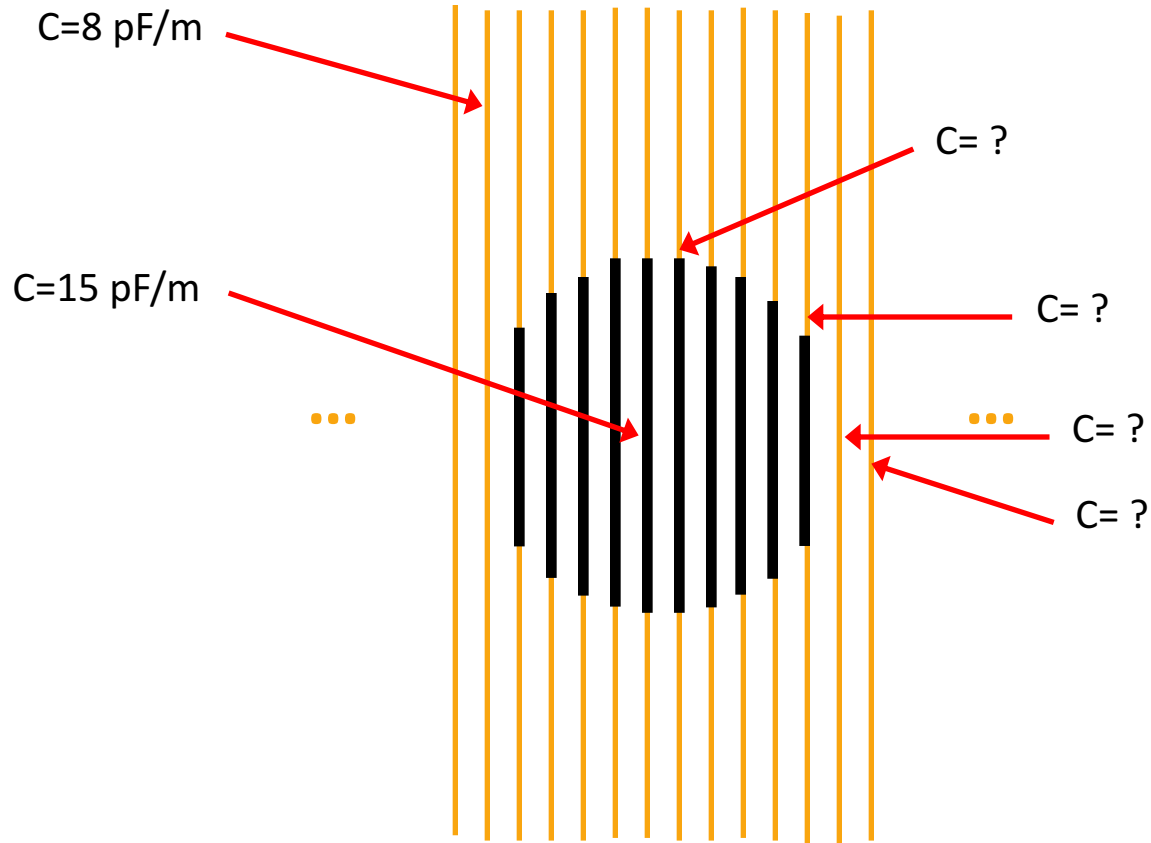
Wires with avalanche discharge



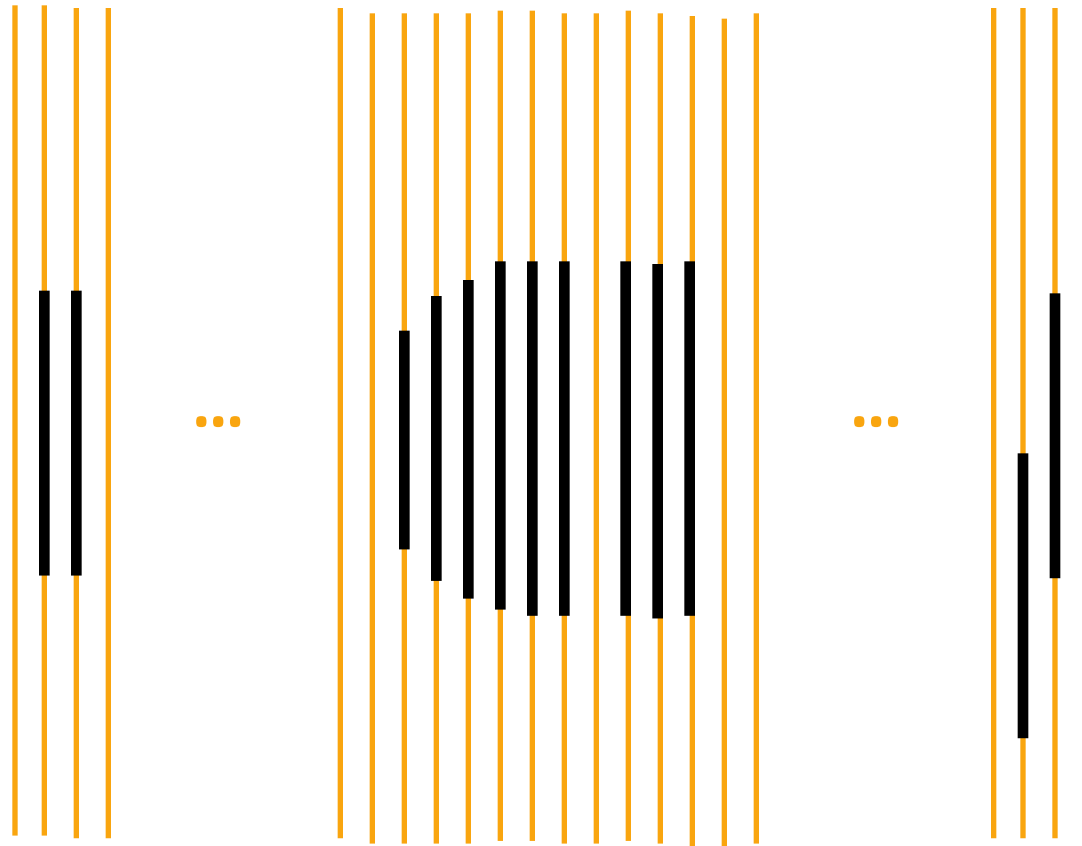
First carbon tube

Last carbon tube

Carbon tube layout in detectors 1 to 6 (field wires not shown)



Carbon tube layout in detector #7 (field wires not shown)



Conclusions and questions so far:

- Central part of the detectors are more susceptible to avalanche discharge
- There's $\times 2$ jump in capacitance from the sense wires to the carbon tubes. Calculate capacitances for sense wires close to the carbon tubes by running Garfield (Andrew)
- Are we over-biasing the sense wires adjacent to carbon tubes?
- The gas mixture 90:10 Argon:CO₂ is poor on quencher. The chambers may be operating just below discharge threshold in regions far from carbon tubes, and over discharge threshold near the carbon tubes
- The big prototype MWPC detector currently at JLab was tested at UMass with 80:20 gas, not 90:10 gas. This behavior was not observed at UMass
- Should investigate a 85:15 gas mixture
- Our gas mixing system is unstable. Should use premixed gas.