

# GEM-TRD setup

pad GEM (x,y)

GEM (y)

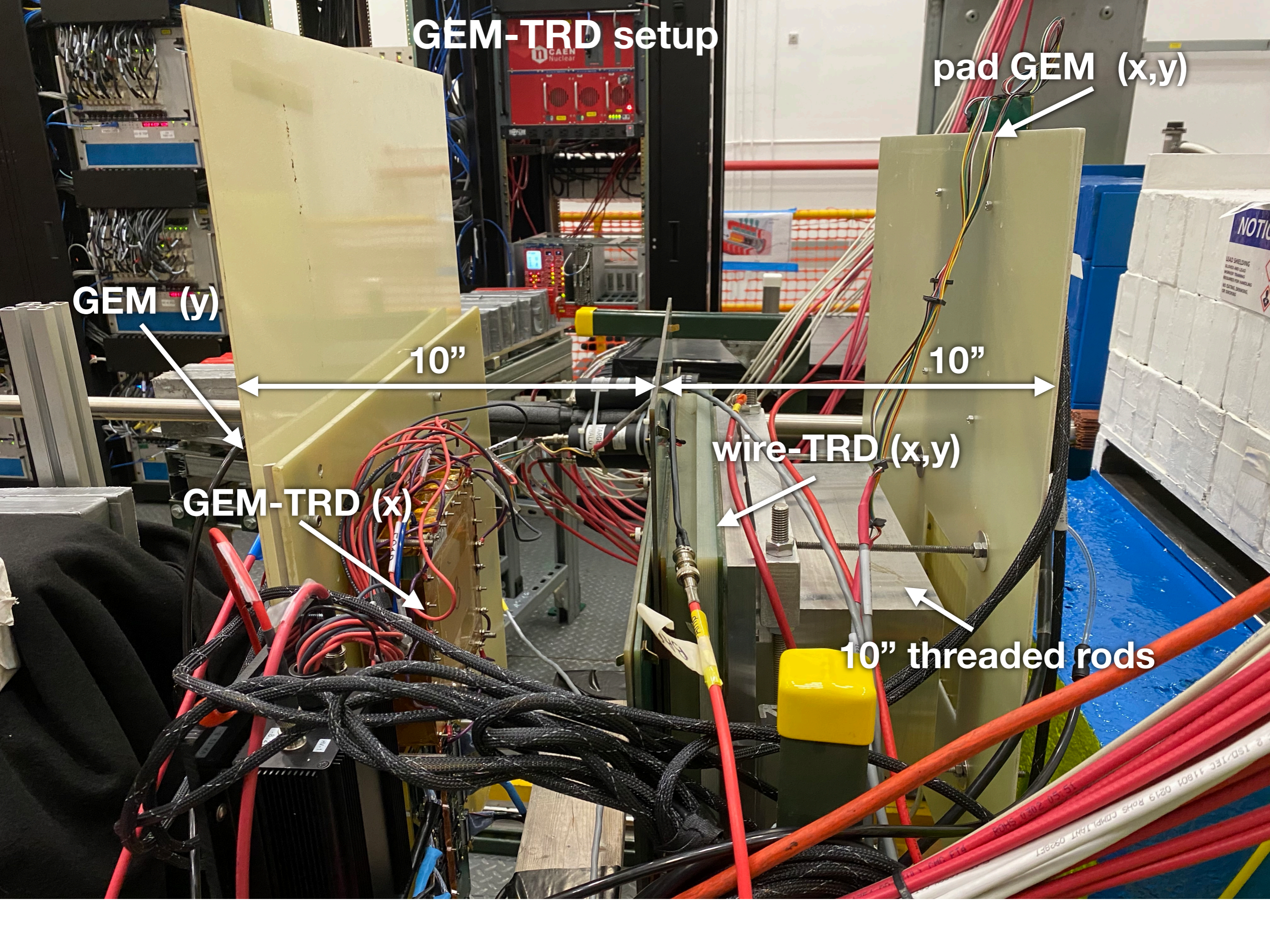
10"

10"

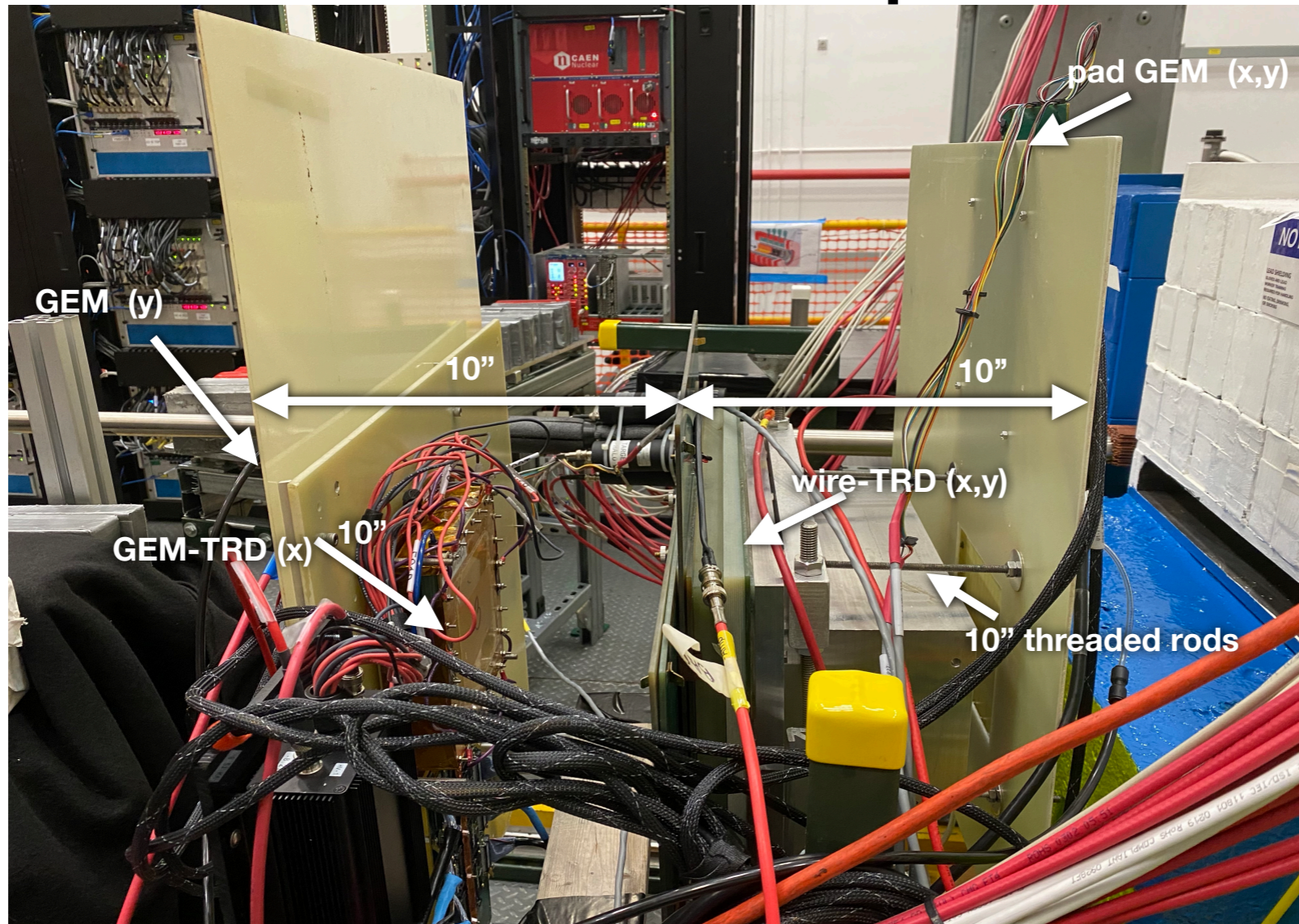
wire-TRD (x,y)

GEM-TRD (x)

10" threaded rods



# GEM-TRD setup



- All detectors supported by the same frame that was installed in December in front of DIRC
- Suggest this time to use one position that doesn't interfere with the CPP test (left or right?)
- The 10" threaded rods (4 pc) can be replaced with 30" rods to make total distance  $\sim 1\text{m}$
- wire-TRD about 5%RL, not significant effect on the resolution at 3GeV

## Pad GEM detector



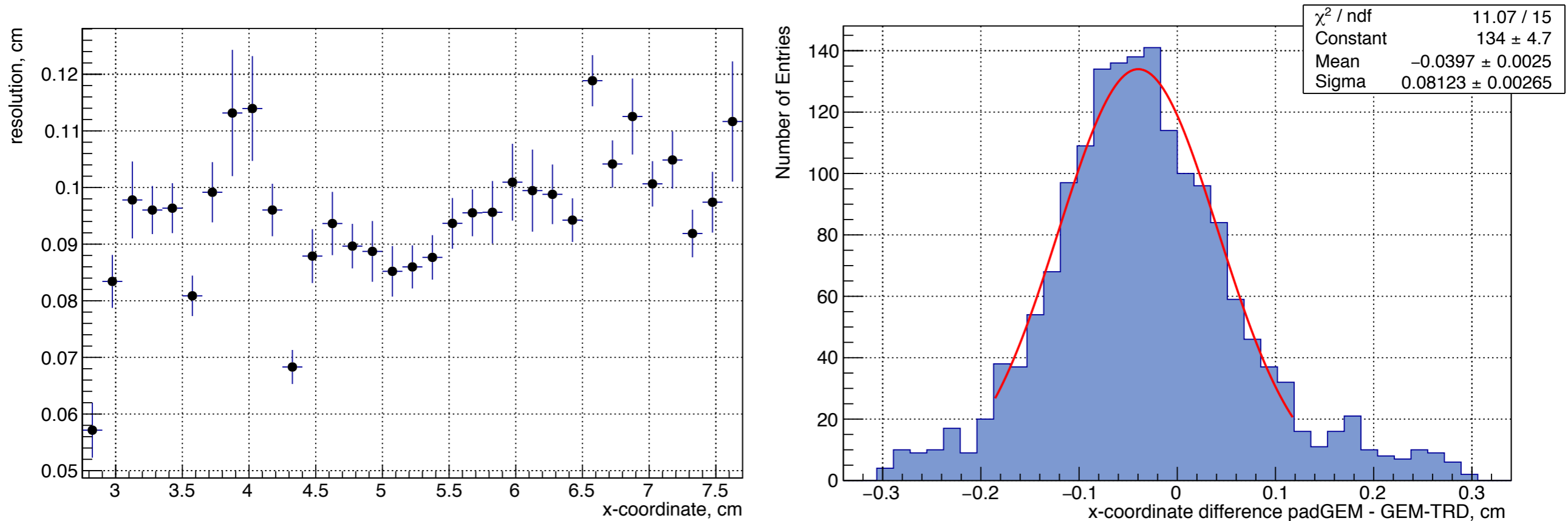
- Most upstream detector
- Supporting plate (1/8" G10) should be rotated by 180 deg
- Covers 9cm x 9cm x-y pads
- Each pad 1cm x 1cm
- Estimated resolution 0.8-1 mm (expected to be improved)

## GEM (y)



- Most downstream, just behind GEM-TRD
- Available electronics covers 5.76 cm in y with 100  $\mu\text{m}$  resolution
- Supporting plate (1/8" G10) should be rotated by 180 when installed in front of DIRC

## Resolution - defined by padGEM



- Plotted is padGEM resolution: estimation based on correlation between padGEM and GEM-TRD x coordinate, 50cm apart with ~5%RL material in the middle
- Using simple (x,y) center-of-mass calculation gives 0.8-1 mm resolution
- Such estimation is an upper limit, as it assumes single-point source of the trajectories
- Better estimation planned to be done with additional x-y GEM placed just next to padGEM, however readout by SRS
- Thus, at 1m distance expect <1mrad track segment angular resolution in both x and y

# Radiator tests



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