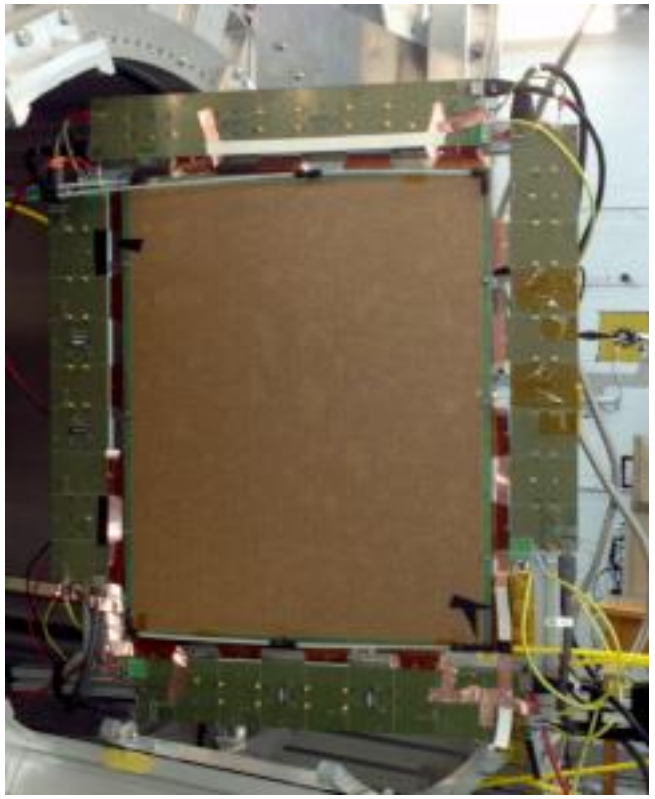
SBS/Front Tracker



First «pre-final» GEM module + Electronics

Requirements:

- Hit spatial resolution <100 μm
- Stand large background flux
  - ≤ 250 MHz/cm^2 γ
  - ≤ 160k/cm^2 charged particles
- Active area ≥120x40 cm^2
- Acquisition rate ~20 kevt/s

- GEM foil quality check redefined: negative quality check results of the first 4 foils delivered; new procedure defined with the help of CERN+UVa experts: first step consists in an aggressive cleaning based on quik HV ramp up.
- GEM modules production : 3 <pre-final> modules assembled; material for additional 6 already delivered.
- DESY Beam Test: two modules under test in magnetic field up to 500 Gauss with few GeV electron beam. Analysis in progress
- Electronics Advances: final MPD version including advices of JLab DAQ experts; new front-end card based on APV25 with 133pin Panasonic connector (picture below).
- GEM foil improvement: protective resistor pads now outside the inner frame, for easier access; added pads for capacitor coupling to readout plane
- Electronic Noise: noise at the level of 10 ADC units when strips are connected to the card inputs.