HP Gas TPC Test stand update

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Guillermo Fernandez Moroni
High voltage test on the field cage in Air and Ar

- looking for corona effect test using ultrasonic sniffer
- Tested after 45 minutes with a flow = 25 scf_air x 1.44 (for Argon)= 36 scf_Ar. Bag Vol. = 2x2x2 cf = 8 cf.
- No evidence of corona effect up to 5kV.
- New flange for HV connector for Ar atmosphere
- Regular shv showed voltage-breakdown problems in Ar-atmosphere
64 channels digitizer KAEN V1740

Data acquisition system ready
- Readout connection using dummy cards
- 64 pads per card
- 1 set of pads connected to a charge amplifier ortec 109A
- 9 sets of pads connected to a picoameter
Muon trigger system
• Ready for the first full assembly of the detector

• Preliminary version gas system for running with AR-CO2 (90-10) at 1 atm is ready to use.

Available signals:

• Anode and drift current using power supply meter.
• Pad current through picoameter.
• Pad signal through ortec 109A preamp.
• Gating wire currents.

For two tests:

• Using gamma source.
• Using cosmic rays.
Pad signal might be challenging for extra noise and capacitance problems, but we should see a significant change in current when using the radiation source.

Ion current generated in the gain volume

Gating wire plane voltages