WireScannerMeeting-Apr-04-06

Wire Scanner and Collimator Meeting Minutes, April 4, 2006

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Attendees:

Bob Fuller (*absent*),	James Bong,	Tim Montagne,
Tom Porter,	René Correa (*absent*),	Patrick Krejcik (*absent*),
Hamid Shoaee,	Dave Schultz,	Paul Emma,
Stephen Norum,	Doug Murray	

Agenda:

The Agenda is devoted to Detectors for the Injection Wire Scanners. We need to discuss:

1. **Location**: where are PMTs and Ionization chambers located?
2. **Needs**: what kind of voltages are required, what kind of gas, how will it be distributed, lead shielding required, support stands.
3. **Procurement**: which tube manufacturer will be used, where do we get the bases, how are the ion chambers constructed, how will the voltages be generated (i.e. a VME module or an external supply with a DAC?), who supplies the gas?
4. **Schedule**: when will all of this happen and who will be doing this work?
5. **Testing**: what's the most effective way to test these detectors without beam?

Action: (summary; see details below)

1. **Doug** will determine the required high voltages, and if remote control is required.
2. **Doug** will determine the specifics of the gas mixture for the ion chambers.
3. **Doug** will determine if standard PMT bases can be used.

Minutes:

1. **Location**
    a. We discussed priorities of all detectors, and Paul confirmed that all would be needed. He mentioned that the PMT nearest the BXS magnet is most important since it would serve the first 3 wire scanners.
    b. It was pointed out that the newest air Cerenkov PMT assembly might be feasible to implement, since it's located in a very dense area of the beamline, on the high energy side of the BX02 bending magnet. Tim will investigate the options.
    c. Tim mentioned that the supports for the PMTs adjacent to wire scanners 11, 12 and 13, just past BC1, would be changed to match the angle of the wire scanner assembly.
    d. Dave asked if the MPS PICs could be used for wire scanners. Stephen said no, it was a different device required to be separate.
2. **Requirements**
    a. We started with high voltage.
        i. Paul suggested that high voltage for the ion chambers need not be remotely adjustable from the control room.
        ii. He also suggested that the PMTs do not need remote control, no readback of the setting, no status bits and no set point are required.
        iii. We need to get the HV details from Doug McCormick and Clive Field. *Action*: **Doug** will determine the required voltages, and if remote control is required.
    b. We discussed gas requirements for the Ion chambers.
        i. Tom suggested that the instrument shop will handle the gas supply, and James will coordinate the work. He will speak with Anthony Tilghman.
        ii. Stephen mentioned that a gas system already exists near sector 20. He mentioned that Bill Choate (x8539) knows the details.
        iii. We discussed how the coaxial style ion chambers for wire scanners would be constructed. Tom suggested that Bob Simmons in CPE knows the details. *Action*: **Doug** will determine the specifics of the gas mixture for the ion chambers.
    c. We discussed PMTs.
        i. Tom said that the CPE group has little or no experience with PMT bases.
        ii. Paul said that Doug McCormick and Clive Field have historically worked together to implement them.
        iii. It was also mentioned that historically, each base was custom made from standard commercial ones.
            1. Dave recommended we purchase standard ones, unless there is a compelling reason not to. *Action*: **Doug** will determine if standard PMT bases can be used.
    d. Hamid said that we must ensure that designs and development work are properly documented and properly engineered.

    e. Tim voiced concern that our discussions involved only those devices with MAD names, and we needed a better naming scheme to communicate effectively.
        i. Doug agreed to communicate the list of names currently chosen with the new, proposed naming convention.
3. **Procurement**
    a. It was suggested that we check the SLC final focus area for HV supplies. Tim suggested that we would like all of them to be the same type.
    b. Tom said we should better specify what is needed. He suggested that we understand costs of options for future purchases, for example the remote control options.
        i. James thought that the SLAC design for NLCTA high voltage supplies includes options for remote control and monitoring.
    c. Tim will check for existing designs or documents for the periscope assembly of the Air Cerenkov detectors.
        i. It was suggested he look for a completed periscope assembly in the FFTB area; he can also check with Vern Brown.
        ii. Tim mentioned we would also need lead shielding around base of the periscopes.
    d. Tim said that we need to engineer and build support stands for the 3 wire scanner detectors after BC1, which need to carry lead blocks. We also need to engineer stands located on the floor, for Cerenkov periscopes.
        i. Dave suggested that Tim go downstairs at the next ROD (Repair Opportunity Day) and check for stands and periscopes; he suspects there are 4 stands in sector 11.
    e. It was mentioned that the EP01 area might have a support stand we could use, with Patrick Smith's okay.
4. **Schedule**
    a. We then briefly reviewed the schedule, and added some tasks for detector design, assembly and installation.
    b. We discussed the lack of resources, and discussed who might be available to help.
5. **Testing**
    a. We were short on time, and weren't able to address testing options in this meeting.
6. We had some questions about motor selection for the wire scanners.
    a. Tim asked if a decision had been made on the motor type. Tom said that we'll be using the same Superior Slo-Syn motors as were used before for wire scanners.
    b. James mentioned that the bipolar (push/pull) mode doesn't work well over 250 ft.
    c. Tom said that the wire scanner assembly will be back on table under vacuum, and they will connect a Joerger SMC to do speed testing and more from CAMAC, until the VME software is ready.