FIELDMAPPER PROGRESS – WEEK ENDING 04/10/98

1 Magnet Meeting

We met Wednesday and discussed fieldmapper progress:

- Adam and Miguel presented the status of the assembly of the cable handlers. One of the sheet-metal phi-caterpiller guides may not be needed. The parts that grip the moving end of this caterpiller don't fit.
- Miguel summarized his hall probe gradient effect data.

2 Cable Handler Redesign

- Ryuji's redesign work included providing a separate carriage for the cable handler and for the hall probe arm. Parts for the second carriage are arriving and Adam has begun to assemble them. This carriage will be useful to debug the Z-cable handler.
- The phi-handler assembly is awaiting the revision of the brackets that fix the end of the cable-handler to the drum. Pat Poll is working on the revision.

3 Hall Probe Carriage

- Rich has been contacting encoder vendors with the idea of mounting a z-encoder on the carriage. He find Micro-E has precision units {Jay Flanigan, 508 903 5041, www.micro-e.com} but Jay judges them inapplicable (precision overkill for one thing) and recommends Renco. They {Ed Berg, 805 562 1127} have inexpensive ones (e.g. model RM -15 with no SST bearings) that look good. Rich needs to understand the encoder output better and find a way to read it out into the PC.
- Rich contacted Dynapar-Danaher, got catalogues; C-Tek {781 246 1720} has an encoder read-out MPC-851 for $1325 single axis; Rockford Controls{630 960 2046} will send catalogues; Metronics {603 622 0212, Ron, www.metronics.com}, has QC-1000 for $680 encoder read-out; Acurite (not on web) {Lloyd Rickard 716 661 1700} has precision chrome on glass linear encoder systems, 10' long for $2230;
- Sterling Instruments {Ron Gonzalez, 516 328 3300, will send quote for rack, pinion} has stock drive parts for shafts, racks, pinons.

4 Hall Probe Arm

5 Hall Probe Calibration

- Miguel and Adam took more data to check gradient effects of hall probe. They time share with Ryuji who is setting up the NMR probe in the lab magnet in IB1.

6 Field Calculations

7 NMR R & D

- Ryuji and Jim seem to have a signal visible on their signal analyzer, so evidently the Swiss device is working. They haven't interfaced the PC and GPIB to it yet, but are working on filter circuits, etc.

8 Schedule

9 Installation

- Rich went with Rick Hance to the detector platform and he thinks safety will not prevent us from working in the platform. The power buses to the toroid magnets can be roped off. Incidentally he was surprised there wasn't more erosion of readiness of the toroid magnet power buses, klixons, etc. Some work however will be needed to get the system ready to power again.
- Rich measured the phi-control arm supports; it will be easy to make some supports for them off the center beam of the detector.