2016-09-13-Magnet Meeting

PG, VB, MC, MW, JC, CR, JB, JT, CW, SF, AB, MP, DL- .

Magnet commissioning - Spectrometer solenoid 'Instability testing'-

ABross - Update:

- ramped SSU 3 times
  - with temporary 8 diodes
  - standard 3 diode chain
  - with lakeshores – full system.
- Max detected signal was 35mV. Signals seen on VTs were too wide to filter/reject.
- 8 diode test appeared subjectively better? But not significant – in sufficient statistics to prove.
- SF conclusions
  - Thresholds should be set at 150mV during ramp
  - lower to 100mV once at current.
  - Run spike catcher at all times.

- M1&2 noise threshold 150mV – observe 60-65mV.
- Added ground straps between TDK and AMI.
- QD GUI changes SSU verified – SSD in process.
- SS contactors. - are operating as designed - sympathetic operation due to di/dt signals.
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Planned runs by end of week are:

1. FC at 25mA/s to tune di/dt in QD.
2. SSU&D to 3T.

Notes on QD system operation:

- QD requires tuning for each magnet ramp rate
- each 'move' or tune of currents requires its own QD settings
- Can generate these this week for 'Material physics'.
- Tuning for 'cooling' TBD.
- ECE QD system tuning is critically dependant on correct calculation of ramp rates.

SF proposes

- Use a single fixed ramp schedule to nominal 3T in tracking volume in all cases.
- M1&M2 can be ramped at fixed rateto arrive at current at different times from ECE.
- Then tune individual end coils up or down individually at fixed

ramp rate (TBD) an appropriate QD setting will be determined for these end coil tuning operations.

- Mechanical stability. - JB/CW

S.Plate model shows 50um deflection for 20tons load.

AB ral can run high force tests.

Soak test – 36hr.