Mock data run - Tracker

Aims

- Cool all four cryostats
- Temperature stability
- Functioning front end electronics
- Readout through DATE
- Online monitoring and reconstruction
- Signal injection with internal LED system, triggering with other detectors

Things that worked

- After cooling cycles and cold-trapping, all four cryostats reached minimum temperature of 6-6.5K
- Temperature control with AFEs at 9K (after MDR), although ITCs readback of temperatures not entirely trusted – replacements on way
- Majority of front end electronics functioning, some malfunctioning chips, un-calibrated boards or missing firmware installations on spares
- AFEs initialized from MLCR C&M
- The upstream tracker (cryos 1 + 2) were read out through DATE. The data was unpacked and visible in the online monitoring
- Waveguides were attached to downstream tracker, though unused

Things that didn't

- Power supply on cryo 3 persistently shorting.
- Large noise componant visible on cryo 1 with bayonets pulled (no connected to VLPCs). Adjustment of power and sense wires on backplane mitigated much of the problem, but not all. AFEs are still noisier than when in other locations around RAL. The wiring was not previously changed and this appears a problem new to the hall.
- Only upstream tracker was readout
- Not sufficient time to install and verify internal LED system
- Only 2/3 CAEN VME controllers would accept new firmware, also permitting only 1 tracker readout
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Next..

- Spare power supply expected soon
- Spare VME controller and bad board to return to CAEN
- Cleanup after DATE debugging, some modifications to when triggers are disabled
- More integration of C&M
- Unpacking and online monitoring need some changes to ensure channels are properly plotted
- Readout and checks of DS tracker for problems seen US
- Internal LED system
- Drive for homogenization of spares
- Installation of windows machine to allow PR firmware development remotely