



News

LHC news



CMS News

- Water leak in YE+1 has caused some concern: decision taken to keep most of CMS off for 1 week. Will turn on again Monday
- Second leak (same nature) has been found before causing damage
- No Magnet ramp next week. Magnet will be turned on on Monday October 26
- 19 Oct-22 Oct: LHC DSO tests : UXC access restricted (will have plenty of alarm tests)
- Vacuum pumping starting on Monday on October 19th
- **Will start 24/7 operation waiting for beam on October 26th**
- Request to try out a Level 3 alarm interlock to check how long it takes to recover when in operation: have to decide whether we do it in Next week MWGR or after October 26.



Operational scenarios

- Action is being taken to include in the data payload the state of CMS subdetectors (important at beginning of fill and in case of sudden change of LHC state)
- Issue related to starting data taking prior to Stable beams being understood. Major issue is related to data size when Tracker is not biased ... need to make progress on this soon.
- As details are still being worked out , will have a report on this as soon as full understanding is clear.



Some issues where we need to have clear plans

- Splash events: agreed with LPC that quantum is 25 shots for a given beam (LHC ops might prefer to have 2-bunch shots (bunches separated by 2 or 4 μ s: any objection ?)
- Do we want 'scraping' events (close-in collimators on stable single beams) .. I would say no, but I am ready to hear positive opinions
- How do we want to test beam abort ? Idea is to use end of fill, but different requests from experiments: extreme is Atlas who want to start scraping beam (and lower thresholds on BRMs) and see when the dump fires ...
- Do we want periods of non-colliding STABLE BEAMS (request from Alice and Atlas for 1 shift worth): This question for me is to tracker and pixel as I assume that muons might decide (if needed to be on whenever period with single beams at fixed energy are foreseen by machine studies)



More issue to sort out

- RF cogging : need to understand how we can do it (RF Cogging is the beam phase skewing in order to center the IP in the center of CMS.
- DO we think we can get it to cm resolution just using BPTX/BCM time difference? (depends on how well we know cable lengths and propagation times of signals)

Do we trust without independent Pixel/tracker confirmation? If not then Pixel/tracker latency scan might need to be postponed until we are sure timing of the Beam is fixed...



Upcoming events

- Mark on your agenda:
 - Beam spot calibration half day mini-workshop during Physics days (Oct 20)
 - Mini Lumi review during physics day (Oct 21)



LHC news from last LMC

- The non conformity in the power distribution involved in the QPS system of the triplets has been fixed.
- A leak (between isolation vacuum and HE enclosure) has been detected in sector 34. Leak is small (100 times smaller than leaks which caused cooldown stoppage earlier this year). At time of meeting not clear whether this would prevent Liquid He filling of cold mass. **Good news of this morning: cold mass could be filled and leak is stationary hence should not block operation**



LHC news continued

- Commissioning of nQPS taking more time than foreseen , effect is to delay Phase 2 power testing above 2 KA in Dipole circuit
- Decision taken to postpone finishing of phase 2 power testing and move into cold checkout/operation once the tests at 2 KA are done (and postpone to January finishing of Power testing for ≥ 6 KA i.e. ≥ 3.5 TeV)
- First: Implication is that before Xmas max energy will be 1.1 TeV per beam
- Second implication: power testing might stop earlier hence beam injection/circulation could happen earlier. S. Myers is pushing to for Nov 16.