Daily Schedule

H4/SPS Daily meetings

September 15

Status: We could only run part of the night, until about 4:00 AM. Beam expected at 8:30 PM (?). CAL calibration with 20 GeV pions completed. Two configurations suggested by Leon tested as well (with 150 GeV pions).

Program: 10 GeV electrons (limited number of configurations). We will stop tomorrow at 7:00 AM. The area must be cleared by 8:00 AM.

September 14

Status: Program with 20 GeV protons completed (center of tower 2: 0,45,180 deg +1 position at 90 deg 100k events). Different configurations with 200 GeV electrons used for the FIFO full issue. As of today, we are in "democratc mode", so we have lost the capability to run at the highest energies (>250 GeV). To do list related to dismantling and shipping Configurations still to do

Program: 10 GeV electrons. Completion of the scan with 20 GeV pions.

Analysis: Dave Smith looked a little at position measurements in CAL single crystals, here. Benoit had a look at the 20 GeV pion run used for CAL calibrations. There is a very good agreement between the reconstructed energy of the MIP peak and that predicted by the MC, demonstrating that pedestals or light yields/gains have **not** significantly drifted over time.

September 11

Status: Smooth operation most of the time, except for 3 hours in the morning. Program of different geometrical configurations completed at 20 GeV. New configurations proposed by Philippe at different energies (200,100,50,20 GeV) to study the crack effects + direct contributions from the beam almost done.

Program: Different electronic configurations to investigate the FIFO full issue. Switch to 20 GeV (10 GeV?) protons.

Analysis: Luis presented the first comparison between MC and data for the ACD distributions. The agreement seems reasonable.

September 10

Status: Smooth operation most of the time. Program of different geometrical configurations completed at 50 GeV, well along at 20 GeV. Runs with different trigger engines (internal trigger for physical events: 1 range readout, 0-suppress, external trigger for random events: 4 range readout, non 0-suppress) performed successfully to study the pedestal drift issue.

Program: Completion of 20 GeV program. Dedicated runs near cracks at 200 GeV. Switch to protons+pions tomorrow morning, when the experts are around.

Analysis: Preliminary results of the "pedestal-drift" runs (Benoit). The expected effect is clearly visible, although this is still very qualitative.

September 9

Status: Smooth operation most of the time, but for a long interruption from 4:30 to 9 AM. Program of different geometrical configurations completed at 100 GeV. Specific configurations proposed by Leon (45 deg, with particles entering the tracker sideways within the thick-converter layers) were used as well.

Program: Specific studies for the "baseline restoration" (aka "pedestal drift") problem using LATTE's muti-engine capabilities (configuration files provided by Jim Panetta). CAL pedestals, internal trigger runs. Switch to 50 GeV.

Analysis: A look at the deposited-energy distributionsmeasured in the different CAL layers (Benoit): a factor close to 90%, dependent on the layer and the bombarding energy has to be applied to the data to get a good match with the data. It is not clear if this effect is only due to non-linearity in the extrapolation of the cosmic-muon calibration to the highest energy range. Philippe showed the dependence of the measured energy on the distance to the log edge. David P. has studied the beam width, found to be much narrower in the data than in the existing simulation runs. Jan and Niklas showed results on the FHE efficiency at 200 GeV. Since the deposited energy per layer is so high, there are only few events below threshold. The measurement must be repeated at lower energy.

September 8

Status: Smooth operation most of the time. Program of different geometrical configurations completed at 280 GeV. FHE tests completed at 280 GeV (theshold=0.5 GeV-2 GeV) at 2 different positions. Cerenkov counters have been checked (there was connection problems), and are now working, although the efficiency is low.

Program: Specific studies for the "baseline restoration" (aka "pedestal drift") problem (waiting for Ric's help to implement muti-engine capabilities). CAL pedestals, internal trigger runs. Switch to 100 GeV.

September 7

Status: The beam is now much more stable. Calorimeter calibration completed, ACD calibration completed, scanning of 200 GeV configurations almost completed. Some runs were repeated after it was found that 4 scintillators used for the beam tuning were still in and be moved out. The pressure in the 2 Cerenkovs (1.2 bars

so far) was set to 0. The dependence of the calorimeter measured energy as a function of rate has been investigated ("baseline restoration" problem). The effect is clearly visible. We decide to limit the rate to 400 Hz for the rest of the run. The time of the daily meeting will be moved to 5 PM to enable people on the previous night shift to attend.

Program: switch to 280 GeV and repeat the same configurations. Specific BT configuration files will be prepared by Luca and Carmelo to study the FHE efficiency using the SPS timing settings. As proposed by Anders, the TEM diagnostics will be on by default (BT 6 which is now the baseline).

Analysis: the first quick comparison with the MC simulations at 100 GeV shows a reasonable agreement for the tracker hit multiplicity (the multiplicity is larger for the data) and the energy deposited per layer in the calorimeter. No comparison is available for the ACD yet. More simulations are needed.

September 6

Status: First day of beam. We were supposed to have the beam at midnight, we got it at 3PM. The timing was looked at, the calorimeter signal is now coming earlier with respect to the tracker as compared to PS. BT 5 configutation with cal/tkr in the middle of the trigger window at SPS is now the baseline. The calibration of the calorimeter (cross pattern) at 100 GeV was started then interrupted to let the experts optimize the beam tuning at the highest energies. Many interruptions due to machine problems. Benoit attended the weekly users' meeting (moved from Thursadt to Wednesday as tomorrow is a holiday in Switzerland): there will be machine development (no beam) from next Tuesday 8 AM to Wednesday 4 PM. A threat on our running with the "0 mrd" configuration (allowing us to get the highest rate at high energy) was mentioned during the meeting, as the H2 users (sharing the same target) would like a less detrimental configuration for them. Finally, a way around was found and we wil keep this configuration at least until Monday.

Program: completion of the 100 GeV calibration runs, ACD calibration with protrons+pions, switch to 200 GeV, scanning of different (X,Y, theta) configurations

T9/PS run Daily Briefings - 3PM

Daily briefing minutes

August 21 - 13-3-005

Communications	

Online& DAQ Report	-Interruption today between 8:30 and 17:00 because of an intervention on a magnet in the PS hall. The program on positrons and electrons at 1 GeV is essentially complete (~ 900 K for both). Alessandro has moved the second arm of the tagger at larger angle in order to get lower energy gamma-rays. .

OfflineReport	The pipeline at SLAC is back up and there is no backlog left. Mizuno shows some simulation results concerning positron annihilation. With the current "annihilator", the probability for annihilation at 1 GeV is 1e-3. The probability for having two gamma rays with energy greater than 30 MeV is about half as low, 0.5e-4. Half of these events are actually contaminated by a bremstrahlung gamma-ray. The angle between the gamma-ray directions can help distinguish between contaminated/ pure annihilation events, the latter being associated with greater angles.

Program	We will resume data taking with the tagger at .5 GeV when the beam is back, using different configurations, until tomorrow morning. We will then proceed with "special configuration" runs, namely using different FHE thresholds with 5 GeV electrons.
Notes	

August 20 - 32-1-A24

Communications	

Online &DAQ Report	-Interruption today between 10:30 and 12:00 because of an local power outage (Benoit accidentally pushed the emergency bottom in on of the barracks while trying to pull an ethernet cable). We couldn't switch the power back on by ourselves, after proper authorization of the control room. The expert on call had to drive over. Everything went back up without too much problem. Otherwise smooth operation.

OfflineReport	The pipeline at SLAC has been stuck for more than 12 hours because u23 is full. We are eagerly waiting for California to wake up.

Program	We took advantage of the interruption to prepare for the positron run. The annihilator is now a piece of 27-mm thick plexiglas. The two finger detectors are now side by side. We will start running positrons around 4 PM tonight and keep running overnight.
Notes	

August 19 - 32-1-A24

Communications	- large increase in the beam rate for standard setting last night when running photons, had to reduce rate by closing slits to 51 to get usual rate on S0 (20K /cycle) and reduce pile-up; please monitor this number when taking photons and act on slits if needed - revised few shift to match right people with planned activity (see shift list for details); contact Luca in case of problems - Luca L leave tonight, Benoit will take over as run coordinator

Online&DAQ Report	

Offline Report	- Benoit on CAL pedestal drift: analysed rate effect in CAL crystal on pedestal for p runs; there is a clear effect that shows a broadening of the landau peak in CalEneSum at high rate; cutting on GemDeltaEvtTime and selecting particles at the beginning of the spill the Landau appear normal. The same is confirmed when analyzing few runs taken with lower p rate. Positron and electron runs seem unaffected. Michael looking at tkr data to seek for any rate effect; the idea is to monitor the efficiency of a FE vs GemDeltaEvtTIme, as no runs with different rates are available for p through the tkr. - Stefan on e+ MC; proposed setup simulated with 2 target, MMS and 1cm Al; fiducial cut on veto identified; simulated about 90K e+ and e- hiting the annihilator. Found too large differnece between e+ and e- before cut on fiducial volume, need to look into that. With cut on fiducial volume the brem background is better for MMS. Nb of simulated annihilation events is 25 out og 90K (similar to the events found by Philippe after his cuts to identify tracks pointing to the target)

Program	- running smoothly with photons, program to be followed until tomorrow at 4PM maximum; perform full-brem at shallow angle tonight, and if time is short do not perform some of the runs at 500mev primary beam as we plan to reconfigure the tagger for the very low energy on monday and tuesday anyway - move to positron setup tomorrow afternoon and take data overnight - monday/tuesday for tagger low energy setup and data - tuesday afternoon for special runs - wednesday morning 8AM start removal. Sandro+Michele will lead the CU dismantling and transportation, Johan+Massimo will lead the packaging of electronis, computers, services, Francesco G will lead the removal and storage of the ancillaries. Benoit will take take care of contacting Ilias and organizing the transportation
Notes	

August 18 - 13-3-005

Communications	- smooth data taking until this morning around 10; T10 requested hadron target w/o prior agreement with us and reduced our e rate by a factor 2. we agreed that they can have the hadron target between 1PM and 5PM today. We will use that time to setup the finger counters for e+ runs, to speed up setup for e+. - this is the second time that a change affect our line w/o prior planning or notification from the control room; there is in general good support from the control room and no problem in giving us standard conditions, so shifters are encouraged to contact the control room if they spot any strange performance in the beam line, and ask for standard conditions

Online&DAQ Report	

Offline Report	- Philippe on pileup measurements - comparison of new runs w and w/o pile-up inspector show difference wrt to first e scan runs; overall rate is the main difference (effect of pile-up inspector is not very strong); residual pile-up directly measured with a random trigger is at the level of 2%, and is correlated with the beam direction Philippe on positron runs: e+ and e- runs compared; cuts to define no hits in the ACD and in a fiducial tkr volume; events selection for tracks pointing back to the MMS target. Effect of cuts on e+ and e- runs show a 6 sigma effect, but the overall number of residual events is 70 (out of 1M). MC predicts 200 annihilation events, but calculations must be done to know how many of such events would be seen by the CU and would pass the analysis cuts

Program	- e scan completed last night - photon program going on now and until sunday (see shift list for details) - setup of finger counters for positron runs between now and 5PM when standard e target is back
Notes	

August 17 - 13-3-005

Communications	- news from PS/SPS users meeting: the MICE experiment will not run after us, so we have a chance for an extension; the coordinators feel this is not necessary and hard to support; the maximum we can afford is to extend 1 day if really needed; on the other hand we need to organize for the transportation of our equipment to SPS, currently scheduled for wednesday 23; Luca to contact Ilias and discuss possibility of move on thursday if we are late with the program after the weekend - next week cycle structure will change and will extend to 22s; possibility of 8 spill maximum on our beam line, excellent support from PS; on our side we need to make sure the spill gate from the ancillary follow this change (Monica B to check, should be fine as spill signal comes from accelerator) - very low beam rate after this morning intervention, control room solicited to solve the problem, now working on that - Luca working on schedule to fit all requested runs, detailed plan to come but feeling is that all will fit - Erik provided 1 10x3x1cm counter for the e+ runs; Bari provided 2 1x1x0.2cm finger counters for the same purpose.

Online&DAQ Report	

OfflineReport	- full-brem data on twr3 show standard distribution of vertices (no dead areas) - ToT preliminary analysis (Francesco)

Program	- p program completed - full-brem and tagged gamma at 2.5 on twr3 completed - started e scan at 5gev, then go back to photons

Notes	

August 16 - 13-3-005

Communications	- 1 PMT on the twr3 side top tile seems to be badly connected (very low PH) after the top tile was repositioned in its original location after albedo runs - might try fidgeting with the light guide to reestablish connection - Lat-btserver crashed last night when opening a pdf file from confluence (Luca L). Lat-btserver has problems with windows manager, so please do not use it for open files that are not strictly connected to the DAQ. THe Monitor PCs now have a firefox link on the desktop that you can use to connect to the web (Johan). Restart of btserver was fast, but 2 mistakes affeted data until this morning: - housekeeping was not turned ON, and only restarted this morning; data logger shows anyway normal values for T and rH - ACD HV was not turned ON and only re-enabled today at 2PM; please alway look at ACD histograms in the online (even if they were supposed to be empty with a 90 degress beam....) - Socket Gleam is alive! actually helped immediately with the issue of ACD HV because we saw reconstructed tracks pointing to the ACD tiles and saw not hits in the ACD distributions, so went to the HV control and found it to be off

Online&DAQ Report	

OfflineReport	- Tagger calibration and beam dispersion - Berrie on MIP peak in p runs (pdf)

Program	- p program completed: - 5M p at 10GeV through MMS at 30 degrees on twr3 (runs 1369-1379) - 5M p at 6GeV through MMS at 30 degrees (runs 1380-1391); 2.5M (runs 1388-1391) evts taken with ACD OFF (see above) - 2.5M p at 10GeV at 90 degrees through log 3 (runs 1392-1397) - ACD OFF - 2.5M p at 10GeV at 90 degrees through log 2 (runs 1398-1403) - ACD OFF - 2M p at 6GeV at 90 degrees through log 2 (runs 1392-1397) - ACD OFF - p at 6GeV at 90 degrees through log 2 with different beam rate to test pedestal drift vs readout and particle rate - ACD OFF - 500k p at 10GeV at 90 degrees through log 2 (run 1413) with ACD ON - more investigations on pedestal drift dependance (increased LAC threshold) and p at 0 and 60 degrees in the afternoon proposed list of new runs here
Notes	- due to a stop from PS, tomorrow morning shift will start at 9AM

August 15 - 13-3-005

Communications	- 1st positron annihilation program completed overnight; shooted 1M e+ and 1M e- through MMS placed in front of ACD tiles; CU oriented at small angle to increase path length in tracker and benefit from good tracking to point tracks to MMS target. Analysis will rely on ACD efficiency to reject e+. Target placement done using a pb brick to shadow the beam and then replacing the brick with the MMS target - switched to p this morning; MMS target placed between the beam and the CU, shooting beam in 2 positions: small angle through twr3 towards twr2, 90 degrees entering twr3; will collect 10M p for each position at 10 and 6 gev; program will go on until tomorrow

Online&DAQ Report	working well at very high rate with p since this morning, 4KHz peak rate. Some errors appear but are known and under control (mainly FIFO full and parsing errors)

OfflineReport	postponed to VRVS later; will have contributions on PSF (Claudia), E recon (Philippe), ACD cuts and positron runs (Philippe, Eric)

Program	see above
Notes	new shift list until the end available on confluence; reduced to 2 people/shift to better support analysis now that running is stable meet at 6PM in this meeting room for VRVS together

August 14 - 32-1-A24

Communications	-Photon runs: completed position 1(0degree),2(30degree),3(50degree) both full brem and tagged with primary beam at 0.5,1,2.5GeV. currently taking events for position 2 in tagged mode with 1.75 gev primary beam to fully populate spectrum. - position 4 for albedo (145 degree): tile 4 moved from top to side of cal 3; full-brem taken, 1gev primary beam tagged mode as well, 0.5 gev was too slow this morning (only 3 spills); will need to move tile 4 back to its original location prior to positron runs - discussion for following photon runs: philippe request tagged mode, more configurations; energy spectrum can be sampled in a coarse way to the benefit of more configurations, as e recon studies are more sensitive to gemoetry (see bias from bill methos reported yesterday for example). Since photon runs in tagging mode are slower and benefit from 4th spill, Luca suggest we do them overnight and use the day for electron, proton, positrons; the only concern is that positrons require a setup that is not compatible with photon runs, so is must be scheduled properly

Online&DAQ Report	all stable

OfflineReport	-philippe (CAL): completed analysis of yesterday on energy resolution, results are confirmed on all the tagged photon runs; at 0 and 30 degress the parametric method has a significant bias, and the resolution is worse than MC. The likelihood method show smaller bias, therefore a systematic error from the tagger can be excluded. Require confirmation of the beam energy spread and tagger resoultion by tagger people -berrie: pion contamination in photon data, from pile-up and cerenkov inefficinecy; photons conversion efficiency in the TKR show how layer 15 has a reduced number of vertices wrt to MC (pdf) -Carmelo: layer 15 is known to have large number of bad strips, and looking back at e runs we realized that the spot we are hitting with photons at the center of tower 2 is actually a dead area (1 and 2); hard to see with photons but clear with electrons (and from old pisa data): -eric (ACD): analysis of last night runs with photons at 145 degrees show some activity in tile 4, but the spectrum seems compatible with a beam halo; more investigation going on to correlate with info from tkr and cal

Program	- discussion on positron setup; discussed implications of layer thickness (trade-off between annihilation probability and brem contamination), running with ancillary CAL in the DAQ to tag energy of positrons radiating bremstrahlung photons before hitting the target, setup (dump, veto scintillator, target). Agreed that we would make a simple test tonight, keep setup simple, run w/o ancillary and collect quickly 1M positron and 1M electrons shooting through the ACD tiles at approx 45 degree. We will then check for difference offline and look for 2 gamma events as positron annihilation signature.
Notes	

August 13 - 32-1-A24

Communications	beam conditions very stable over the weekend, with 4th spill available; data taken with good efficiency

Online&DAQ Report	

OfflineReport	- philippe: taggged photon spectrum has a whole around 650 MeV, would be nice to fill it with 1.5 or 1.75 gev primary beam tagged photons; compared different energy recon algo for available data (not bruel methos as starts at 1gev): bill's method show a bias ranging from few to 10%; Pol method has a smaller bias but has a hard-coded limitation to 50 degress, therefore when this was realized some data were taken at 49 degrees (quicker than recompiling the code) so we have limited statistics (in the long run we just have to recompile the code and allow angle over 50). - philippe: simulations going on to determine best impact point for position 4 (albedo): simulated 100,250,500,1000 mev photons and shooted in position 4 at each log: lower logs have more events (around 0.5%) that pass DC2 cuts for all energies, although behaviour is different for different energies; a position at around log 7 would be the best trade-off

Program	proceed with photons at least until tomorrow afternoon, then consider proton runs for the swing and owl shift; make sure the positron setup is defined before tomorrow and be ready to prepare it on tuesday to run tuesday night - positron setup: gary calculated annihilation probability to be maximum at 500mev; 1gev beam is still reasonable (0.4% events) and the beam has a smaller beam spot; will need to build pb brick wall with a hole for the MMS target (or equivalent 1mm al) to stop beam halo (cannot trigger on a donward scintillator as that would increase bremstrahlung background - need some thinking. Luca: S3 is currently used as a veto on S2 light guide, would not like to move it
Notes	

August 12 - 32-1-A24

Communications	- running smoothly since yesterday, 2 CU positions completed at 2.5Gev, both tagged and full bream photons, 2 position completed at 1GeV tagged, currently running tagged photons at 0.5GeV with CU at 0 angle; 3rd position tagged photon by tonight, 3rd position full-brem at 2.5GeV for the owl shift. Running with 4 spills per supercycle since 1.3PM - dump position: last night understood that 1GeV beam and 0.5GeV beam have larger divergence and some photons hit the dump; larger statistics for the 1Gev tagged photons was requested to compensate; the same was observed today with straight e in the CU, displaying a clear cut in the beam spot. The effect is larger with photons as the brem - induced divergence (scales as m/p) adds to the larger e beam divergenve. We removed the last pb brick wall from the dump, increasing the dump-beam distance to 11cm still keeping the unradiated beam within 23cm Pb (>6 moliere radii) when the magnet is ON. Online monitor with full AD + CU data proved critical to get this info in real time - discussion for definition of 4th CU position: current agreement is to simulate albedo gammas by shooting gammas at 145 degrees in the tower 3 CAL; the impact point would be half way in the CAL, as having gammas too close to the TKR would give too poor an energy resolution, while shooting from the bottom of the CAL side would result in very few events making their way to the TKR. Philippe is concerned that we also get some tagged gammas in such configuration to cross-check the energy as the CU energy measurement would be very poor; suggestions were made to evaluate the possibility of placing the ACD tile currently on top on the side of tower 3, to be able to run background rejection cuts similar to the LAT ones. Luca to evaluate time to move ACD tile and contact Bill and Steve to check if this position is ok, or they feel other configurations should come before.

Online&DAQ Report	

OfflineReport	- Philippe presented plots from test sync runs with e which show how events with no energy in the cal point to the dump as measured by the 1st arm of the tagger - Berrie showed plots from full-brem runs which have less conversion in the top and thick layers wrt to the MC

Program	- agreed program here - reduce shifters for owl to 2 for the next 3 nights as running full-brem is simple
Notes	

August 11 - 32-S-C22

Communications	- Running since this morning 9AM with 2 spills, 3 spills available since 2.30PM. Currently taking tagged photons from 1GeV e beam - 60K evts of 2.5GeV e taken for reference after shutdown - Sh became inefficient and empty events were triggering the si tagger; S3 is now isntalled as a veto over the S2 light-guide (Nicola M) - verified feasibility of 500MeV beam: rate is ok but beam is larger, will have to verify if S3 veto is ok and final tagging rate - CU position 2 defined as x=200, Y=0, Z=-48, angle = 30

Online&DAQ Report	DAQ synchronization lost once, tagged photon run stopped and restarted with no event loss

OfflineReport	- Philippe reported on analysis of tagger calibration runs, tagger energy resolution same as what measured and presented by Nicola yesterday; one of the analyzed runs appear as 1.12GeV e in the rcReport, while the actual energy was 1.125, Luca B believe there is an issue with trunctation which the database people should address at SLAC (Eduardo to check) - Eric working on the setting of the VETO threshold for the ACD

Program	- agreed program here - reduce shifters for owl to 2 for the next 3 nights as running full-brem is simple
Notes	

August 10 - 13-3-005

Communications	News from PS/PS Users Meeting: -intervention on QED2 scheduled to end 5PM; spare was found to be not working, a second spare was available but needs to be equipped with a new vacuum chamber that will be taken from the 1st non good spare - beam loss in the separation magnet between east hall south and north branch; currently this is the reason why we have no beam; if replacement of QED2 cures the loss we should get beam back tonight, otherwise a technical intervention will be required, and cooling time is 4 days minimum (currently the radiation level at the separation magnet is 2mSv) - supercycle changes: agreed changes for next week so that we get 3 spills in east hall during working hours and 4 during night and week-ends; the fourth spill will come around 4 sec later that the first three. new changes wil be discussed for week 34 (check weekly schedule here) - Luca to investigate on the possibilty of an extension with the MICE group which is supposed to run after GLAST
Online&DAQ Report	Ric confirms that agreed modifications on spill structure for next week will not hamper DAQ sync and data merge online

OfflineReport	- Nicola reported on ancillary recon performance and tagger studies; taggeed electrons momentum resolution is 3.5% (beam+MS+tagger), better than expected. Current AD recon only available locally, working to make it available to everybody here w/o waiting pipeline to update; also speeding up release process and pipeline re-processing of tagged photon runs - Monica B reported on preliminary studies of Tkr TOT - Eric C reported on ACD calibrations; mapping of electronics is correct, geometry and recon in place but reconstructed tracks show small discrepancies with expected tiles positions (order 1 cm); MIP peak to determine VETO threshold relocated with CR after changing timing, tiles behave differently, will make sense to cross-check with beam (as done with Alex at the beginning of the run); - Monica P reported that the last generated MC file has a BL=0.45 which is wrong; Luca B to udpate confluence with correct conversion plot for current vs bending power and tell Francesco

Program	- agreed program (still) here will have to rediscuss program again if intervention is required on separation magnet
Notes	please provide Luca with updated presence of people at CERN to allow completion of shift list

August 9 - 32-1-A24

Communications	No beam since this morning at 9. CUrrent estimation is NO beam before tomorrow afternoon, shifts are suspended, we will restart tomorrow at 12 and update. Tagger calibration done. 2.5 GeV e beam used to collect 100K tagged gammas, 2M events full-brem gammas
Online&DAQ Report	DAQ sync with AD ran smoothly since this morning at rates up to 1500 part/cycle, corresponsind to a peak rate of 1KHz (max is 2K), with a beam intensity of 60KHz

Offline Report	- Latency for full-brem runs is large due to caltuple merge, Luca to investigate with Francesco if pipeline can be coinfigured to link to merit and SVAC tuples before merging caltuple; the other option is to give up the CAL tuple (to be discussed with CAL people) Offline monitor report (Claudia) - must transfer correct geometry in AD recon and check filling of si det of downstream tagger Tagger calibration onnline report (Carmelo) - all is under control Preliminary analysis of 1 full-brem run (Eduardo,Benoit PSF and Erecon, Gary)

Program	- agreed program here
Notes	

August 8 - 13-3-005

Communications	Beam back from9. Standard beam with 3 spills from 11. Discovered that magnet settings were wrong and gave beam crossing cerenkov detectors therefore reducing e fraction and trigger efficiency. After loading the magnet settings file from Erik everything was fine and we could restart. Tagger calibration program going on; usptream arm aligned with CU, BL scan in progress, dowstream arm to be aligned by tonight.
Online&DAQ Report	DAQ sync with AD ran smoothly since this morning at rates up to 1500 part/cycle, corresponsind to a peak rate of 1KHz (max is 2K), with a beam intensity of 60KHz

OfflineReport	- Local Offline coordination and daily reports: Claudia for TKR, Philippe for CAL, Eric C for ACD, Nicola M for ancillary and beam diagnostics
Program	- Finish tagger calibration by tonight - Collect 100K in tagging mode, CU at 0 angle, center of tower 2 - Collect 2.4M evts in full-brem, CU at 0 angle, center of tower 2 See detailed program here
Notes	When changes to the beam line are to be made, please use the table provided here and not the table from EBCR

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July 31 - 32-1-A24

Communications	UPS identified and ordered (3 UPS with 900W x 7min for DAQ PCs, 1 UPS with 450W x 7 min for 28V PS); should be delivered wednesday
Online&DAQ Report	CU DAQ maximum readout rate with full error parsing in the code is 300Hz average, corresponding to 4KHz instantenous rate during the spill (our spill structure is 3 x 0.4s spills every 16 s). Indeed runs were taken with instantenous rates up to 2KHz. This max value will be checked with a random trigger generator (low threshold scintillator) and with the beam as soon as it gets back. Ric on TEM errors: come in a variety (TKR fifo full, phasing errors, parity errors ...); some are just fake errors connected to the so-called TEM-bug in the CU TEM (which are not flight). TKR fifo full errors probably connected to beam conditions producing showers in the last si det upstream the beam and before the CU (see also offline reports), in any case the almost full flags in the GTCC buffer was changed to 0X3E from 0x20 (from E Siskind) to allow for more hits in the tracker before back-pressure events and slow readout rate. Phasing errors found in 1 run only so far, so might be connected to wrong settings - a run with beam shooting across towers should be taken to check if phase errors appear in such conditions. In summary, if we keep trigger rate below 300Hz average we should run w/o errors and be limited by the AD DAQ deadtime (approx 1 ms) DAQ sync: tested with external veto set to 3ms, which was set to avoid CU errors in the wrong assumption that the CU DAQ readout rate is limited to 300Hz instantaneous and not average ; need to retest it w/o such limitation and with the only veto given by the AD DAQ

OfflineReport	- Francesco: acdrecon and adrecon in new BTRelease; bug fix in the svac ntuple to avoid overwriting first 1000 evts - Benoit reported on an anomalous high number of hits in run 811, but also in another run for which the si det al frame was not in the beam - Philippe reported on a strange effect in the distribution of the transverse dimension of showers in the CAL for most e runs taken for CAL calibration (700-750), indicating 2 classes of events; he also reported on a raw energy distribution with 1% of the events exceeding the beam energy - Claudia spotted an anomalous high number of tracks in the runs (700-724) - Discussion: the above analysis and the online picture of the beam on the last si det indicate that the beam line is too congested and must be cleaned; the si det will be repositioned to remove the frame from the beam, and a subset of scintillators will be used for trigger (S3 will be removed, and after the beam is well understood we might rely on Sh in anticoincidence with S2
Program	- CU DAQ max readout rate test with random generated pulses - DAQ sync w/o external 3ms veto - no beam foreseen for the night, restart shifts from tomorrow morning 8AM
Notes	Action items - Luca: provide shift task list, revise shift log and transfer paper logbook info in there for reference for everyone - online: add an all-particle type selection in the DAQ GUI - carmelo and eduardo: verify ACD mapping, ROI definition and ACD timing

July 30 10.30AM - T9 barrack

- List of runs (Eduardo)

- Updated shift list (luca)

- UPS for DAQ PCs and CU PS (luca and gloria)

July 29 8PM - T9 barrack

- Restart of activities

1) Ric: CU DAQ PCs restarted ok, need to switch on CU and acquire some test runs to verify DAQ hardware is ok

2) Philippe: verify XY table is working fine, initialize again to establish reference point

3) Fabio: AD DAQ is on again, test runs being taken and look ok

- List of tasks for 7/30 (no beam available)

- Online team + Sandro: provide online plots for tagger alignment and calibration

- Francesco: verify pipeline is fine and test ACD reconstruction on local PCs, test also ANC reconstruction, improvements on MC geometry in progress, measurements of beamline

- Claudia/Monica: verify offline monitor

- Eduardo: provide list of interesting runs taken so far and distribute it to analize

- Luca, Gloria: provide UPS for at least LAT-BTserver, enquiry about UPS for other DAQ machines and CU PS

- Luca, Gloria, Nicola, Eduardo: provide sketch of experimental setup, trigger setup

- Luca: new shift list with 8 hour shift and 3 people per shift (4 if possible)

July 29 - T9 barrack

Communications	- POWER OUTAGE ON THE WHOLE CERN SITE SINCE 8AM - NO ESTIMATION ON POWER AND BEAM. After contacting the control room we decide to stop shifts until the power is back, and we meet at 8PM at T9 to check again with CR; if no changes happen we will meet again tomorrow at 8AM. - Procedures for power back: even if chiller is not operational there are no issues with CU as gas is flowing and ambient temperature is below 30C. No danger for the CU when power comes back, just have to properly reset XY table before operaing. Experts will have to work on restart DAQs and network connection as soon as power comes back. - First tagger arm aligned with beam, chambers orientation understood; 1 finger counter working, the other being fixed. Current scintillators installed are S0 (10x10), S1(finger), Sh (halo veto), S3 (10x10 before CU)
Online&DAQ Report	- The external trigger signal delivered to the CU had a wrong TTL polarity, resulting in the CU being triggered on the falling edge of the trigger occuring 800ns later than the rising edge; this was corrected and the external trigger signal was aligned with trigger requests from TKR and CAL. New test of DAQ sync will have to be performed to verify if we can work at higher rate (200 evts/spill was the max stable rate tested so far) - Owl shift: all ACD tiles hit by the beam (5 GeV pione) and MIP peaks aligned - absence of CAL-HI trigger understood: bug in configuration file disabled CAL-HI, now cured and good FHE file loaded; CAL HI triggers seen in the data - CU: Ric investigating phasing errors
Offline Report	Francesco: - recon runs resubmitted, few runs still fail at different pipeline stages (@ digi for corrupted events?; @recon for G4 stuck; @svac to be investigated) - new BTRelease installed on local PCs Claudia: - latest fixes to offline monitor, waiting to test with last night data as soon as power is back
Program	- Carmelo and Sandro working on the online monitor to align and calibrate the tagger - define trigger configurations - CAL runs with e - Tagger calibration - provide instruction for shifters to post on confluence (CU DAQ, AD DAQ, trigger setup, offline distributions to monitor) and in the barrack
Notes	- people are invited to start looking at data offline and report - from monday will have 30hour for the daily reports and 30min for offline report

July 28 - room 13-3-005

Communications	- Magnet failure: MNP17 colling system failure at 1AM stopped data taking for several hours but no damage on hardware. Physics restarted after 2 hours w/o silicon tagger for CAL calibrations. Magnet repaired in the morning - CU cooling system changes: CU/ISC cooling coil in the ISC base plate leaked: it was emptied and is now non available, we will rely on top cooling coil as no intervention is possible; the chiller was moved closer to the ISC to minimize thermalization of coolant with ambient through thermal exchange with the zone air, now chiller more efficient; fan added to cool XY table motors. Please look at the temperature during your shift
Online Report	- DAQ sync studies going on - CU: Ric investigating phasing errors
Offline Report	Francesco: - pipeline nicely running - 1st 1000 evetns in SVAC ntuple duplicated Claudia: - offline monitor requires script to parse rcReport info and link to MC files (Navid working on that) - MC and CU cooprdinate systems mismatch (check with Philippe) Dave: - no CAL-HI triggers in last night data as fhe values were saturated
Program	- Complete DAQ sync studies - perform CU timing studies to optimize TACK (timing/script vs ext trigger manual delay) - explore beam conditions - ACD calibrations (ideally 5gev p, if NA 5gev e) - CAL runs with e (Benoit) - Tagger calibration start on 29 morning
Notes	- Fill elogbook - Take your shifts and launch runs yourself - rcReport has wrong table positions for runs [701-736]; the right correlation table between position and run will be circulated. Please reset runcontrol before starting a new run when you change conditions (table position, beam configuration, trigger, CU conf)