MPP meeting 22 October 2010

Original agenda:

- Update on UFOs and sub-threshold UFOs (E. Nebot del Busto)
- Quench test at 450 GeV (speaker to be confirmed)
- Changes for 2011
- AOB

Present:

Matteo Solfaroli, Ruediger Schmidt, Siegfried Wenig (Atlas), Barbara Holzer, Bruno Puccio, Mario Deile (Totem), Mike Lamont, Eduardo Nebot, Annika Nordt, Juan Blanco, Sigrid Wagner, Ben Todd, Markus Zerlauth, Agnieszka Priebe, Christoph Kurfuerst, Tobias Baer, Arjan Verweij, Antonio Di Mauro (Alice), Pushpa Bhat (CMS), Laurette Ponce, Nicola Bacchetta (CMS), George Kourkafas, Jorg Wenninger, Mike Koratzinos.

Minutes:

News (Jorg)

Safe Beam Flag: it was decided to leave the SFB for ions as it is for protons – this avoids re-commissioning. Going back to the SFB flag for protons, Jorg reminded the meeting that we routinely inject beams with half the emmittance we have designed the SFB flag for , so we need to lower the limits. Jorg's proposal is to leave the energy dependence as is, but 'clip' the SBF at 5E11. This is a simple compromise. Ben: what about the SPS? Jorg: will also change the SPS flag.

Plans for the last 2 weeks of proton physics: continue intensity progression in steps of 50 bunches: 312 bunches, 360 then 400+. The 50ns filling will begin with 108 bunches.

Alice TCTVs will be opened exceptionally during stable beams; as a compensatory measure the BLM thresholds of the IR2 triplets will be reduced by a factor 3-5.

TOTEM special low intensity run: A document specifying the exact conditions is in preparation.

Changes for 2011: SMP SPS: some changes SMP LHC: we will move to SMP version 3. PIC: some electronics change. Should the PIC-BIC configuration be revised? ATLAS ALFA detector: We need to do an interlock testing – the technical coordinator should get in touch with the collimation team.

Update on UFOs (Eduardo)

Eduardo gave an update to the UFO analysis presented recently. Data included now are from 31/7 to 12/10. Analysis is based on RS5 and uses a threshold well above noise levels (but below the dump threshold). When he plots the number of events per hour of stable beam, an increase is visible when we go to larger number of bunches. The histogram of signal strength shows a typical Poisson-like distribution. The signal strength of these UFO events (in Gy/s) seem to also go up with the number of bunches.

Duration of losses vs intensity: Is duration shorter as intensity increases? It is not clear yet with the data, but there is a downward trend.

Location of events: everywhere. There does not seem to be a specific area where these events are concentrated. There is some minor concentration (not statistically significant yet) of events around the RP at IP5 and the injection region at IP8. Mike: plot shows 1km bins. What would be the distribution if the bin width was much smaller (say 100m)? Ruediger: are the events distributed around s/c magnets?

Conclusions: UFO rate increases with beam intensity, signal (probably) increases with intensity and duration (probably) decreases with intensity.

Ruediger stressed that these data (used for the analysis) are really useful and we need to find a way to keep a permanent record of them for further studies. Discussions of how to technically achieve this will take place with the database team.

A discussion followed:

Jorg: Is there difference between injection and flat top? An idea is to run for many hours at injection and high intensity.

Mike Lamont: is there a relation with bunch intensity?

Can we use the UFOs as a quench test? Jorg: we will use the wire scanner instead – should do the test this year before the technical stop. We can apparently vary the speed of the wire (make it slower). We can start with 100 bunches and reduce speed.

Nicola: there is no hint of cleaning (reduction of number of events with time) yet.

It was stressed that the vacuum pipe not a clean room and might well contain particles that can fall into the beam.

The meeting recommends to perform the wire scanner test during the next two weeks.