

MEETING 02/02/2011 ---> TESTS AT PSB AND CNGS

Monitors already installed :

- Standard SEM, $P = 1.1$ bar
- Modified SEM $P = 1.1$ bar
- Modified SEM $P = 0.1$ bar

O - This three type of monitors are already installed in IP7 at the LHC. Discrepancies in measurements from 2010 need to be understood (note that the measurements were taken with different type of monitors placed at the same Dcum but they were mounted on top of each other, i.e, different height from floor)

O - Installed in PS:

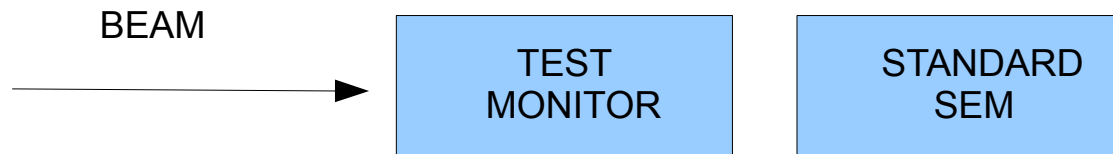
- Modified SEM $P = 0.01$ bar (located in magnet MU16). There are a standard Ionization Chamber and a standard SEM close by for comparisons.
- Modified SEM $P = 0.1$ bar (located in magnet MU42). There are a standard Ionization Chamber, a standard SEM and a cherenkov detector (with photomultiplier) close by for comparisons.

Monitors available for installation :

- 1 X Modified SEM, $P = 1.1$ bar
- 4 X Modified SEM $P = 0.1$ bar
- 1 X Modified SEM $P = 0.01$ bar

to be tested in two different places:

O - PSB: Provides very high intensity beam in short duration. We want to test the appearance of sparks (high signals in short time) that could be dangerous for the electronics. This affects mainly chambers with low pressure, therefore here we will install one Modified SEM at $P=0.1$ and one Modified SEM at $P=0.01$.



We will start measurements with modified SEM $P=0.1$ since a result is more urgent and then we will move on to $P=0.01$. See above a sketch of how the monitors will be installed. Beam shooting through the test Monitor and right after a standard SEM for comparison.

O - CNGS provides:

Very homogenous mixed field.

Pulsed field – 10.5 us per extraction.

Large dose per shot – up to 14 Gy/s in RS1 (40 us) [see attached plot] – this enables direct comparison with BLMI.

Larger dose can be reached (factor 2-3) if going to the end of the duct.

Short cable length if you put the card close by (dose behind the corner is several order lower!).

Optical cables ready.

7 irradiation slots with access in between.

Very stable irradiation conditions.

To be installed (monitors installed after target):

- 1 X Standard IC
- 1 X SEM P = 1.1 bar
- 2 X Modified SEM P = 0.1 bar

Previous similar experiments done by Simone Gilardoni et al. (CONTACT!)