Contribution ID: **17** Type: **not specified**

BLM thresholds: limiting locations

Wednesday 8 December 2010 17:50 (20 minutes)

Around 4000 Beam Loss Monitors are installed around the LHC ring and they must detect dangerous beam losses which could quench the superconducting
magnets or damage components of the accelerator. The LHC BLM system was working very well during the 2009 and 2010 run. All dangerous beam losses have been detected by the system and the beam dump was always initiated correctly so that no damage or quench occurred. However a further fine-tuning of the beam abort thresholds is still needed, especially for the high luminosity and high beam intensity runs being planned for 2011. Possible sources and affects of a reduced signal to noise ratio of the beam loss monitors during the upcoming 2011 run will be addressed. Furthermore it will be verified if the specified beam loss rates can be achieved, at what locations we have possible limiting thresholds and to what extend an increase of the thresholds at what elements is needed. A special focus will be given on losses and thresholds at and around collimators, including also possible correlations between collimator movements, vacuum conditions and beam losses.

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Session Classification: Session 5: Beam losses