

Beam Loss Monitors

A BCM consists of a toroid on the beam line, a pre-amplifier board mounted near the toroid, surrounded by lead, and the acquisition electronics mounted in an accessible area, perhaps the gallery. BCMs do not move significant amounts of current, either internally or externally. There are no internal switching frequencies. A BCM makes measurements on every beam pulse. Making a measurement should not generate any particular EMI. Alternating with each measurement at the beam rep rate of 120Hz, is a calibration pulse. This pulse is triggered by the BCM IOC and the pre-amp converts this TTL pulse to an analog pulse down at the toroid's location. This pulse is < 15Volts max at several amps, for 10's of nanoseconds, repeating at 120Hz.