Intensity Monitors in the Fixed Target Area

2017-2018 Run

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ABSTRACT

The locations and types of intensity monitors in the Fixed Target Area are documented.

# Introduction

Beam intensity through the fixed target enclosures and to the experiments must be monitored. The monitoring devices are typically located where the beam splits. Monitoring devices are chosen to be commensurate with beam intensity. This document is a summary of what presently exists; familiarity with the geography and layout is assumed.

# Layout

Figure 1 shows a layout of the fixed target area and associated accelerators. 120 GeV beam is extracted from the Main Injector, transported (P1, p2) through the Main Ring Remnant (P3), sent through Switchyard (C, F1), and to the Switchyard Absorber and Fixed Target beamlines (MTest, MCenter, and New Muon). For simplicity, intermediate enclosures, such as G2, are not shown.

# Intensity Monitoring

Figure 2 shows, schematically, the locations of the intensity monitors. Refer to Table 1.

# Conclusion

The locations and types of intensity monitors for the fixed target beamlines has been documented.

Table 1

|  |  |  |  |
| --- | --- | --- | --- |
| Identifier | Type | Location | Note |
| MI | DCCT | Main Injector | MI device |
| F19 | SEMA | F19 | not implemented |
| 030 | SEMA | EncC | upstream of Switchyard absorber |
| 210 | IC | F1 | upstream of FSeps |
| MW1 | SEM | M01 | MWest, upstream of target train |
| MT4 | IC | M03 | upstream of MT4 target |
| MT6 | SC | MT6 | may vary depending on experiment |
| MC1 | IC | M01 | MCenter, upstream of target train |
| MC5 | IC | M05 | MCenter, upstream of MC5 target |
| 420 | SEM | EncG2 | NM line |
| NM3 | SEM | NM3 | upstream of target |

|  |  |
| --- | --- |
| Legend |  |
| DCCT | direct current cxxx transducer |
| SEM | secondary emission monitor |
| SEMA | Alvarez SEM |
| IC | ion chamber |
| SC | scintillator |

Figure 1



Figure 2