Detectors in far-backward area

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Luminosity detector

- Calorimeters ($PbWO_4$ or W/ScFi) for photon detector and up and down $e^{\pm}$ spectrometer
- Tracking layers of MAPS or AC-LGAD
- Useful data from every bunch crossing
- Photon detector is important for online machine performance
- Event rates are in $\mathcal{O}(100)$ MHz from photon detector and $\mathcal{O}(20)$ MHz from spectrometer detectors

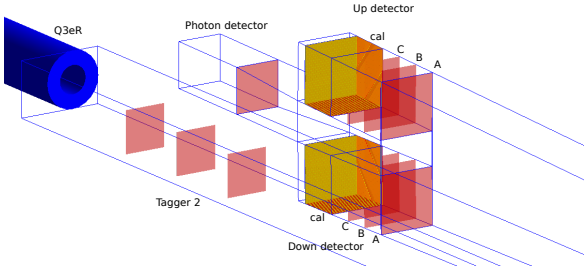
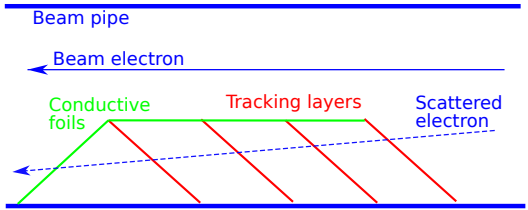


Figure: Detector section of luminosity monitor

Tagger implementation

- Tracking layers of MAPS or AC-LGAD, $PbWO_4$ or sampling calorimeter
- Implementations are considered for tracker in beam vacuum (A) or tracker and calorimeter behing an exit window (B)
- Useful data at every bunch crossing, need for individual track reconstruction and separation
- Event rates in $\mathcal{O}(20)$ MHz for each tagger

Version A, tracker in vacuum



Version B, tracker and calorimeter