New Layout of Spectrometer

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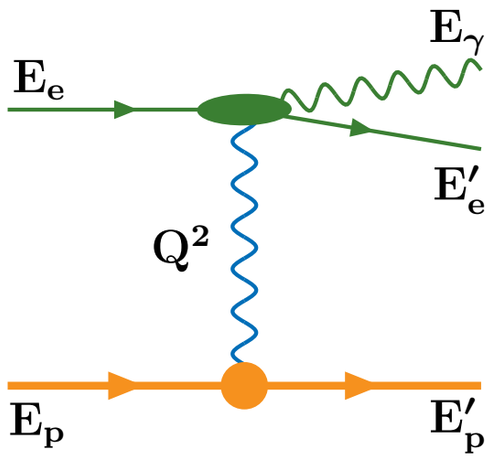
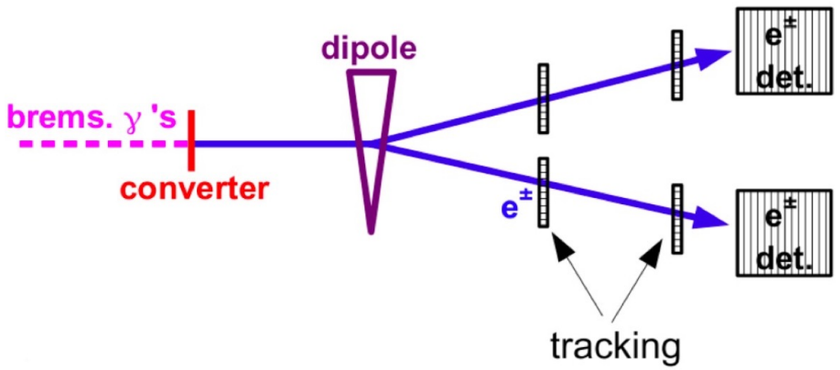
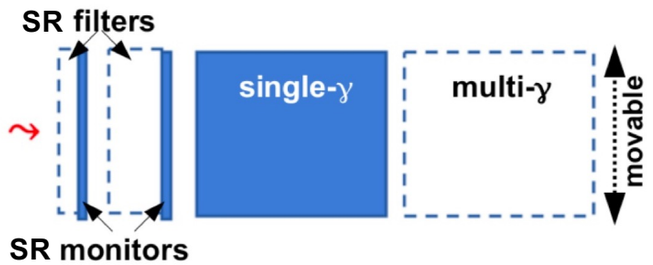


Far Backward Layout

"Photon branch"



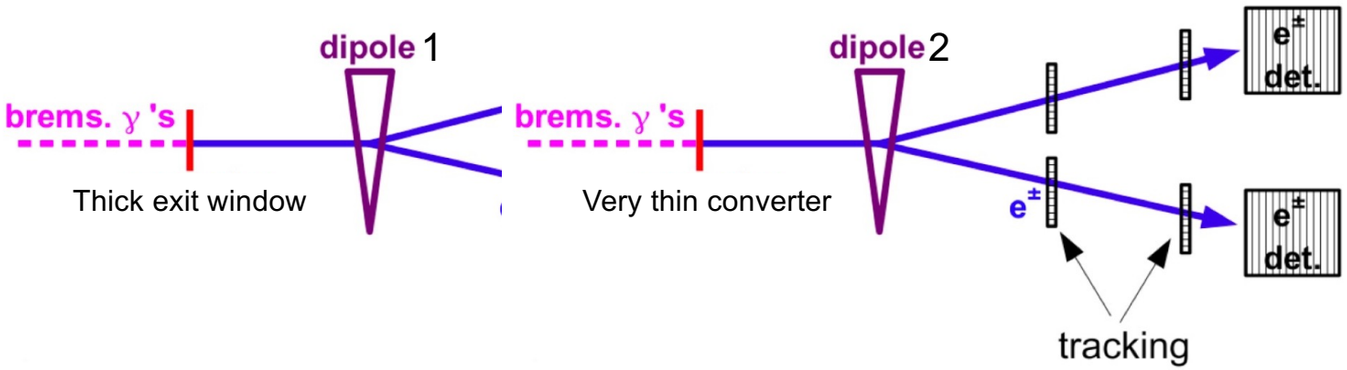


The problem with the present layout of Pair Spectrometer (PS):

- The photon converter is at the same time a photon exit window which is **thick**, to properly separate the beam primary vacuum as well as to distribute the SR heat load:

⇒ Such a thick converter results in a **significant event pileup** also for the PS, in addition the multiple scattering and bremsstrahlung at the exit window seriously **limit the PS resolution**

NEW PS Layout with TWO Dipoles



The problem solution with the new layout of PS:

- A photon exit window is as thick as necessary, to properly separate the beam primary vacuum as well as to distribute the SR heat load;
- an **extra small dipole** magnet (D1) is introduced to sweep away (horizontally?) all photon conversions at the exit window.

ADVANTAGES:

- Relatively **low cost** and **no interference** with the beam primary vacuum;
- *conversion foil(s)* can be **as thin as necessary** (behind a collimator):

  ⇒ **Full PS resolution can be restored and the event pileup minimized**