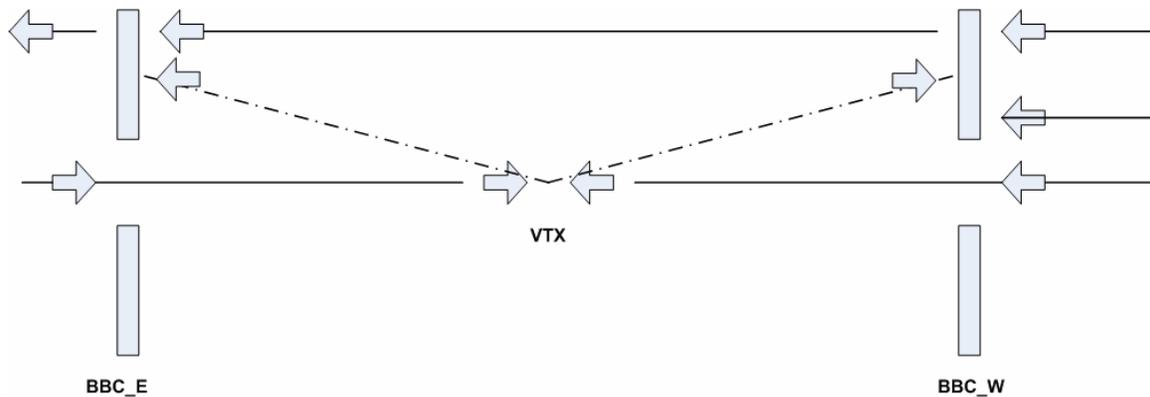


Beam timing at the BBC.  
Note by D. Underwood  
Dec 12, 2008

There is a problem if we wish to use the BBC as the trigger if we want to eliminate halo hits by timing. The halo hitting the opposite side BBC arrives at exactly the same time as particles from the interaction at the vertex which we wish to count.

Only the early hits can be eliminated by timing. The late hits are the good ones, but are contaminated. The diagram shows the problem. This would seem to be a very general problem for any detectors on opposite sides of the interaction region.

I used my beam crossing simulation to just show the time distributions with realistic widths.



Early halo hits the BBC about 12.5 ns before it reaches Z of the vertex. Late halo hits the BBC on the other side at the same time as the particles from the vertex which we wish to use in the trigger.

