
Subject: Re: Loss of efficiency for electrons at $\theta \sim 22^\circ$, due to association failure in EMC

Posted by [Stefano Spataro](#) on Fri, 27 Feb 2015 11:04:55 GMT

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Oct14 suffers for a problem of MC truth for the neutrals, but apart from this the release is fine. All the lines you write come from geometrical considerations:

```
if ( (emcModule<3) && (helix->GetZ())>150.) ) continue; // not consider tracks after emc barrel for BARREL
```

If the position of the last hit is in the GEMS then most probably they will not hit the barrel, then skip this correlation

```
if ( (emcModule==3) && (helix->GetZ())<165.) ) continue; // consider tracks only from last gem plane for FWD
```

Consider only the tracks which are using the last GEM plane for the propagation to the forward endcap.

```
if ( (emcModule==4) && (helix->GetZ())>-30.) ) continue; // consider tracks only ending at the back of STT for BKW
```

If the last hit is not in the negative Z then it will not go to the backward endcap.

In theory, all these conditions make sense. BUT, maybe, if you suffer from a lack of counts for module 3, the 2nd command is somehow wrong, maybe not all the tracks hit the last plane of the GEM (problems in tracking). It could make sense to check the geometry of not GEMs and EMC to see how far we are in this "edge" region of 22° .
