
Subject: Re: Mc Truth Match

Posted by [MartinJGaluska](#) on Tue, 20 Aug 2013 09:17:45 GMT

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Hello Klaus,

you are right, that was what I intended to say.

I believe the behaviour of FillList in combination with "PidAlgoIdealCharged" is a bit more logic when one realizes that MC truth information is only used to determine the particle species (pion, kaon, muon, etc.) and the charge is determined from tracking only (and therefore can be incorrect for high momentum particles for instance). (As you wrote already.)

To Stefano's point: I have just applied a filter to all lists using the following code (inspired by a previous posting of Klaus):

```
int SelectGoodFitStatus(RhoCandList &l) {
    int removed = 0;
    for (int ii=l.GetLength()-1;ii>=0;--ii) {
        if ( !( l[ii]->GetRecoCandidate()->GetFitStatus()>0 ) ) {
            l.Remove(l[ii]);
            removed++;
        }
    }
    return removed;
}
```

So in my while loop I added

```
// comment this out if you want to allow all fit status
SelectGoodFitStatus(piall);
SelectGoodFitStatus(mcpiplus);
SelectGoodFitStatus(mcpiminus);
```

before doing the McTruthMatch and the counting.

The number of events with different counts are reduced from 34 to 19 (out of 1000).
I get the following counts now:

```
pimatchplus = 317    piplus = 324
pimatchminus = 327   piminus = 340
```

I therefore believe that the mis-identified charge cannot be explained with a bad fit status.
