
Subject: Re: Specific event selection in Dpm generator
Posted by [MartinJGaluska](#) on Wed, 28 Aug 2013 16:28:31 GMT
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Hello all,

we ran now into the same problem as Donghee did more than a year ago (in the sense that we also wanted to filter the events which are produced by the dpm generator) while performing a background study. A solution was found pretty fast for our specific problem, but I believe that it would make sense to have a more general solution. Therefore, I implemented a filter for PndDpmDirect which can handle pretty general requests from the simulation macro in the form:

```
Dpm->AddFilterMinMax( 1, 5, 11, -211 ); // request at least 1 and at most 5 e- OR pi-  
Dpm->AddFilterMinMax( 1, 5, -11, 211 ); // AND request at least 1 and at most 5 e+ OR pi+  
Dpm->AddFilterMinMax( 3, 9999, 22 ); // AND request at least 3 and at most 9999 gamma
```

The standard behaviour is the same as before (i.e. no event filtering).

You can tell PndDpmDirect how often it should try to find a suitable event before giving up:

```
Dpm->SetFilterMaxTries(99999);
```

and it can tell you at the end of the simulation macro how many events dpm simulated in total to get the number of filtered events that you wanted as well as how many events reached the limit of tries without success:

```
if( UseDpm ){  
cout << Dpm->GetNumberOfSimulatedEvents() << " events were simulated in dpm\n";  
cout << Dpm->GetNumberOfFilterFailedEvents() << " unsuccessful attempts to find an event  
that suits your filters\n\n";  
}
```

The code is currently still in testing and if you agree I would like to upload it to the trunk once it was tested to be reliable.

EDIT:

Here was a paragraph about a restriction of the code which is obsolete now.

The restriction that you can add a filter for a specific pdg code ONLY ONCE has been removed in versions later than 2013-10-21:

I am looking forward to reading your feedback.

Kind regards,

