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Subject: [OK] Tracking parametrization

Posted by [Klaus Götzen](#) on Wed, 09 Apr 2014 08:37:53 GMT

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Hi,

I put now the sophisticated parametrization to the FsmSimpleTracker class with (reference to Susannas talk)

- $d\phi(p)$  according to p. 10
- $d\theta(p) \rightarrow$  p. 9
- $dp/p(p) \rightarrow$  p. 6
- for  $p < 0.6$ :  $eff(p) \rightarrow$  p. 8.

They can be switched on by putting negative parameter values for  $pRes$ ,  $thtRes$ ,  $\phi Res$  (the values given are then simply ignored if  $< 0$ ) and efficiency, where the efficiency is multiplied with a function shaped like that from p.8, scaling the  $eff$  value for  $0 < p < 0.6$  with a factor between 0.55 and 1.0.

However, from a quick check concerning the channels we discussed on Monday I observed, that a flat tracking efficiency of 85% already looks pretty good for  $2\pi$ ,  $4\pi$ , and  $J/\psi$   $\pi^+ \pi^-$  channel. The  $\eta_c \rightarrow \phi \phi$  channel is still inconsistent for both the sophisticated and the flat approach, where the flat values even look a bit more similar to full sim results, which is also true for the  $J/\psi$ . In the figure, the red plots are from flat values, blue are from parametrization. In the  $J/\psi$  plot, magenta corresponds to full sim. There the flat fast and full sim plots are basically identical with  $eff_{trk} = 85\%$ .

So, our proposal is to keep the flat values as default.

Best,  
Klaus

#### File Attachments

1) [flat\\_vs\\_para.gif](#), downloaded 567 times

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