Russell Reinhart Update

August 3, 2010
What I have been working on

• Look at photon smearing effect on modes:
  • Single Dsm --> KKpipi0
  • Single Dsm --> pieta
  • Single Dsm --> KsK
  • Single Dsm --> KKpi (to check)
• Look at how dmraw and etamass histograms change on these modes when photon smearing is added.
Single Dsm to KKpipi0

Photon smear

No photon smear

root files in: /nfs/cor/anl/rer87/dhad/forlearning1/ds-600/ds-600/
dtuple_c_80404_p2_various

root files in: /nfs/cor/anl/rer87/dhad/forlearning2/ds-600/ds-600/
dtuple_c_80404_p2_various
Single Dsm to pieta

Photon smear

No photon smear

root files in: /nfs/cor/an1/rer87/dhad/forlearning1/ds-600/ds-600/
dtuple_c_80404_p2_various

dtuple_c_80404_p2_various
Single Dsm to KsK

Photon smear

![Graph showing photon smear data with relevant statistics and file paths.]

No photon smear

![Graph showing no photon smear data with relevant statistics and file paths.]

Tuesday, August 3, 2010
Single Dsm to KKpi

Photon smear

No photon smear

root files in: /nfs/cor/an1/rer87/dhad/forlearning1/ds-600/ds-600/ dtuple_c_80404_p2_various

root files in: /nfs/cor/an1/rer87/dhad/forlearning2/ds-600/ds-600/ dtuple_c_80404_p2_various
Code that generated this:

original code:

```ruby
if ($skim == "yes" && $smear_showers == "yes") {
  puts "SMEARING SHOWERS IN EXISTING SKIM NOT SUPPORTED!!!! No smearing will be done."
}

setup_dtag standard -bcm_cut 1.83 -de_cut 0.1 -bcm_ds_cut 1.93 -mraw_cut 0.085
if ($smear_showers == "yes" && $skim == "no") {
  module sel RandomModule
  random create
  prod sel /nfs/cor/anl/ponyisi/2006-4/build/Linux/shlib/C3ccProd
  C3ccProd FixShowers True
}
```

modified code:

```ruby
#-------------------------PHOTON SMEARING RER-------------------------
if ($skim == "yes" && $smear_showers == "yes") {
  module sel RandomModule
  random create
  prod sel C3ccProd
  C3ccProd FixShowers True
  C3ccProd FixEndcap True
}
#-------------------------END PHOTON SMEARING RER-------------------------

setup_dtag standard -bcm_cut 1.83 -de_cut 0.1 -bcm_ds_cut 1.93 -mraw_cut 0.085
if ($smear_showers == "yes" && $skim == "no") {
  module sel RandomModule
  random create
  prod sel C3ccProd
  C3ccProd FixShowers True
  C3ccProd FixEndcap True
}
```
Questions (problems?)

- Is the code correct?
  - If so, very little difference in histograms when photon smearing is added.
- Am I looking at relevant histograms?
- What is next? (presuming the work done thus far is correct)