Comparison of kinematic fit χ^2 between data and MC

Alex Barnes Stuart Fegan Daniel Lersch Sebastian Cole

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Alex Barnes, Stuart Fegan, Daniel Lersch, Sel

Kinematic fitter

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- Updated DEventWriter to include branches with pull information.
- Built reaction filter configuration file, but new software is not working for all reactions in Alex A.'s build. Still investigating this problem.
- Build custom action for DSelector to investigate χ^2 and pulls as they depend on kinematic variables. This is still being tested and debugged.

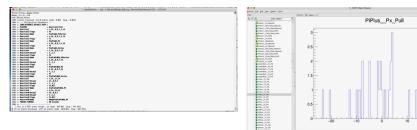
- Statistic package for comparisons of data set in trees or histograms.
- Perform tests such as χ^2 , Kolmogorov-Smirnov test, etc.
- New tests can be built by anyone for their needs and added as a function to this statistics package.
- Potential uses:
 - Comparison to reference plot in online and offline monitoring.
 - Single numbers on the dashboards.
 - Comparison between data and MC.

 Tested: ./DStatTest -f rootFile1 -f rootFile2 -p hist1 -p hist2 -s Chi2Test -s KolmogorovTest



Needs testing: ./DStatTest -f rootFile1 -f rootFile2 -t tree1 -t tree2
 -b branch1 -b branch2 -s KolmogorovTest

Updated DEventWriter



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Entries 28

Std Dev

20 PiPlus__Px_Pull

Mean 0.8493 11.19

Updated kinematic fit reactions to be investigated

Reaction	Kin. fit	Mass con.	Reaction	Kin. fit	Mass con.
$\pi^+\pi^-$	P4 + V	-	$\pi^{0}\pi^{0}\pi^{0}$	P4	-
	P4 Vertex	-		P4	$ \begin{array}{c} \pi^{0} \\ 2\pi^{0} \\ 3\pi^{0} \end{array} $
	Vertex	-		P4	$2\pi^{0}$
K^+K^-	P4 + V	-		P4	$3\pi^0$
	P4	-		P4	η
	V	-	$\pi^0\pi^0\eta$	P4 P4 P4	$ \begin{array}{c} \pi^{0} \\ \pi^{0} \\ \pi^{0} \eta \end{array} $
$\pi^+\pi^-\pi^0$	P4 + V	-		P4	$2\pi^{0}$
	P4	-		P4	$\pi^{0}\eta$
	P4 + V	π^0		P4	$2\pi^0\eta$
	P4		$\pi^0\gamma$	P4 P4	-
$\pi^+\pi^-\eta$	P4 + V	η		P4	π^0
$\pi^+\pi^-\pi^0$ $\pi^+\pi^-\eta$	P4				1