IThephy

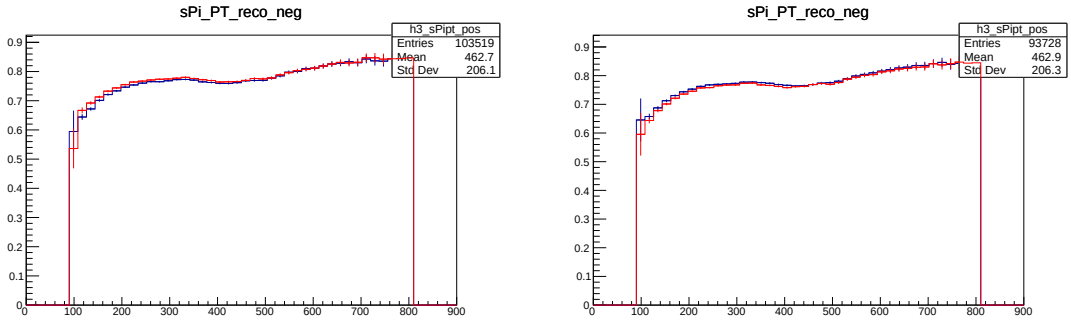


Figura 1: DOWN case on the left and UP case on the right.

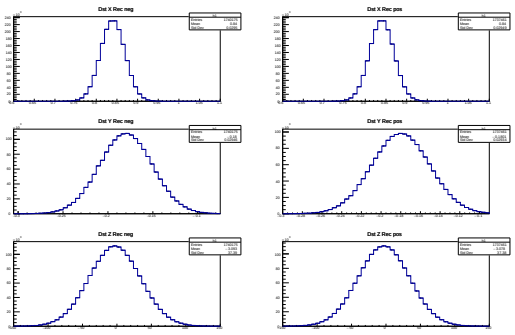
Considering the new data set, this is what we find without any cut and applying a cut on the transversal momentum of positive and negative pions both for Up and Down polarity:

	UP: $sPi_{pos}\, N_{rec}$	UP: $sPi_{neg}\, N_{rec}$	DW: $sPi_{pos}\, N_{rec}$	DW: $sPi_{neg}\, N_{rec}$
NO CUT	2.35291×10^6	2.37106×10^6	2.37436×10^6	2.35698×10^6
PT CUT	580097	581888	582169	580794

These are the asymmetries:

	Asymmetry UP sPi	Asymmetry DW sPi
NO CUT	$-0.00384231 \pm 0.00046009$	$0.00367422 \pm 0.000459732$
PT CUT	$-0.00154133 \pm 0.000927682$	$0.00118232 \pm 0.000927293$

I've chosen the cut looking at where the number of events as a function of the pT gives almost the same amount. This was made in order to study if the problem was of the low transversal momentum of the π^- in the DOWN case and of the π^+ in the UP case. Histograms are shown in Fig. 1.
This study was made because of the deviation of the D* vertex from (0,0,0), actually it is displaced on x-positive and y-negative axis as shown in Fig. 2. So this means that, when DOWN polarity is on, i expect more π^+ than π^-, while for the UP polarity the opposit. This is coherent with results in table 1. With the cut, i expect to eliminate this kind of asymmetry between + and -, but it seemes that this is not the only reason.



DstcooUP.pdf

Figura 2: DOWN case on the left and UP case on the right.