Weekly

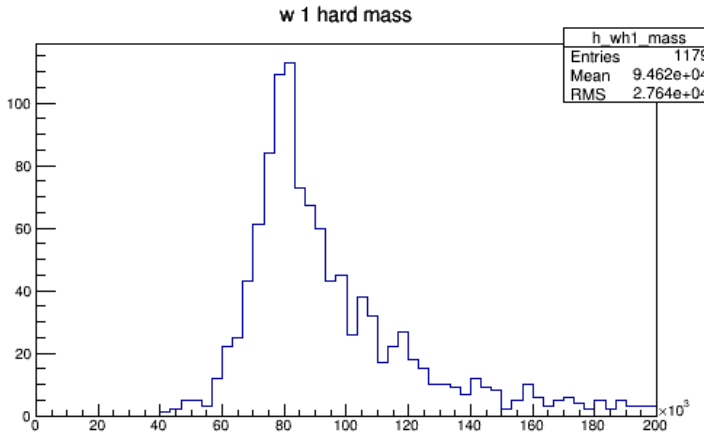
Huijun

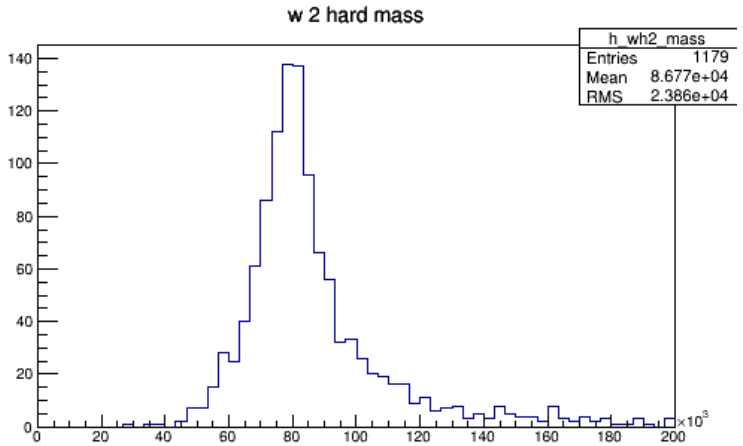
2015-10-26

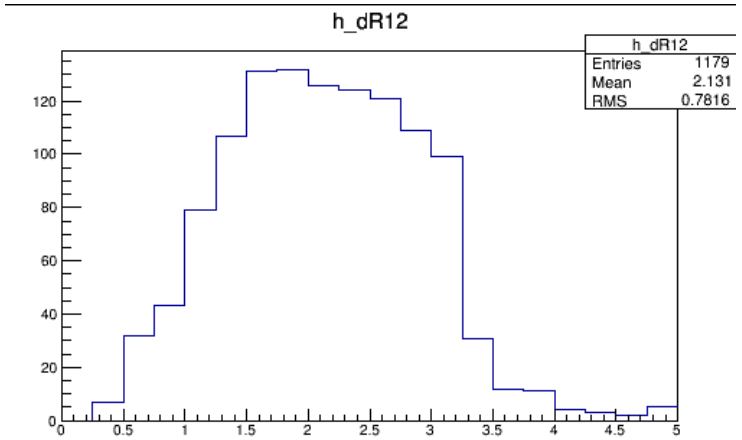
Some preliminary plots for HH->WWWW analysis

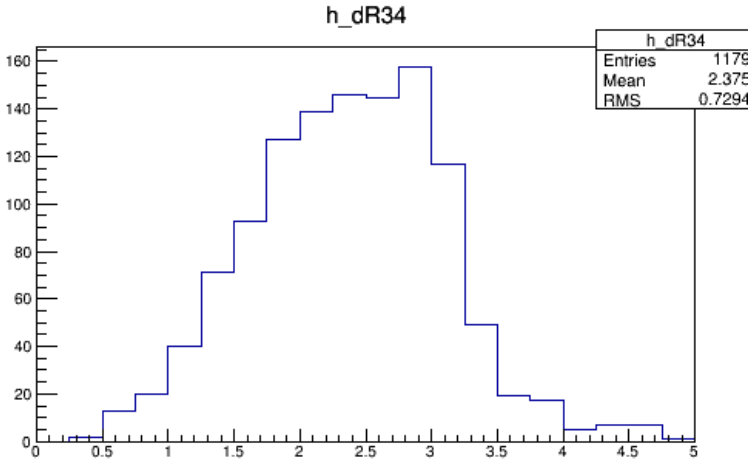
Constrained W mass

- Using minimized Chi
- Chi= $\sqrt{\left(\frac{M1-Mw}{\sigma(M1)}\right)^2+\left(\frac{M2-Mw}{\sigma(M2)}\right)^2}$

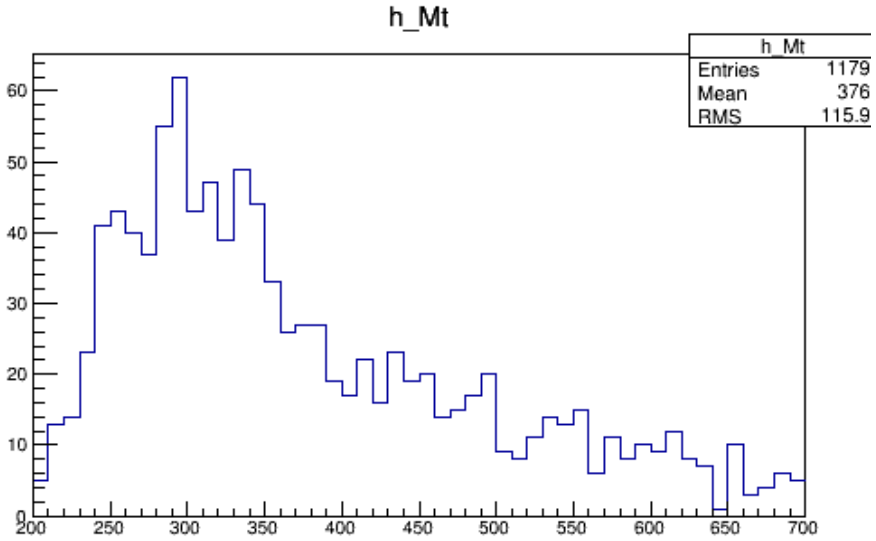


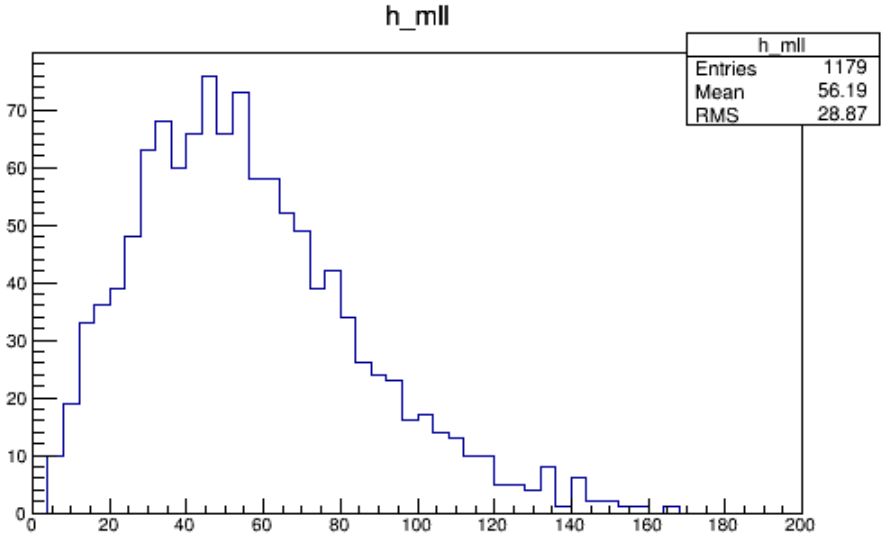


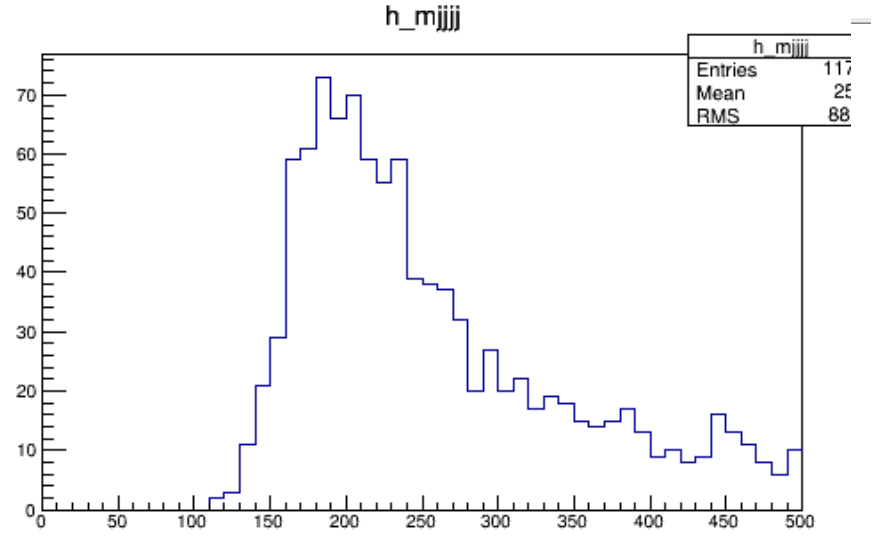


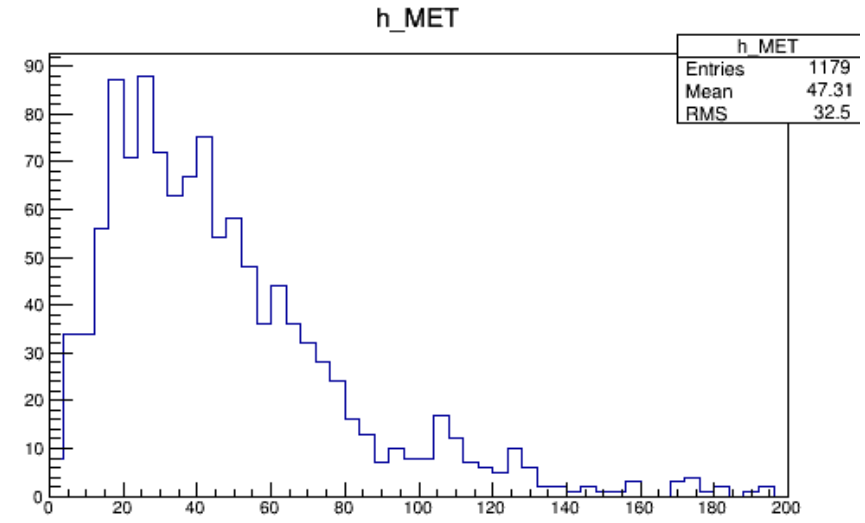


others


h_Mt
h_Mt
Entries 1179
Mean 376
RMS 115.9

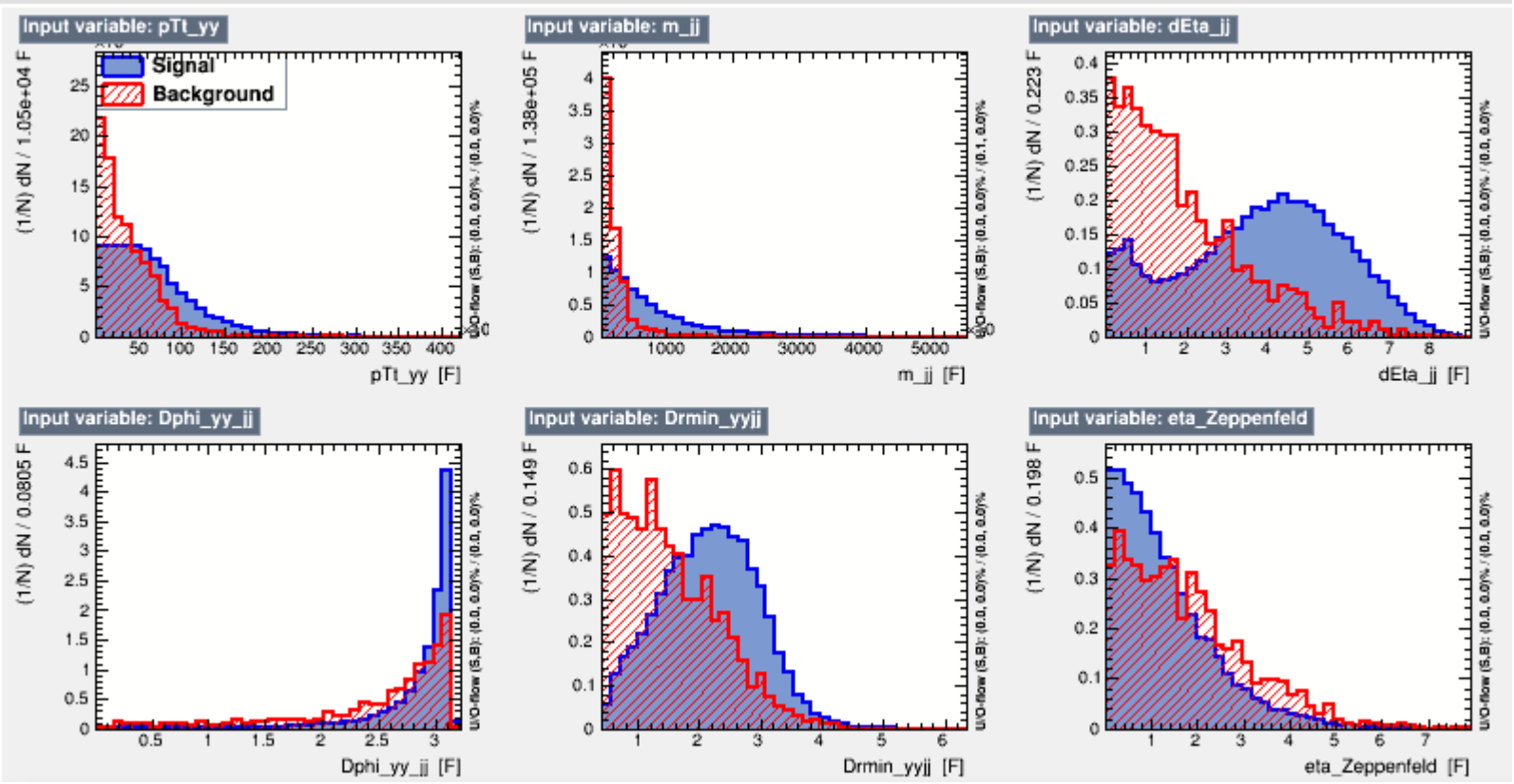

h_mll
h_mll
Entries 1179
Mean 56.19
RMS 28.87

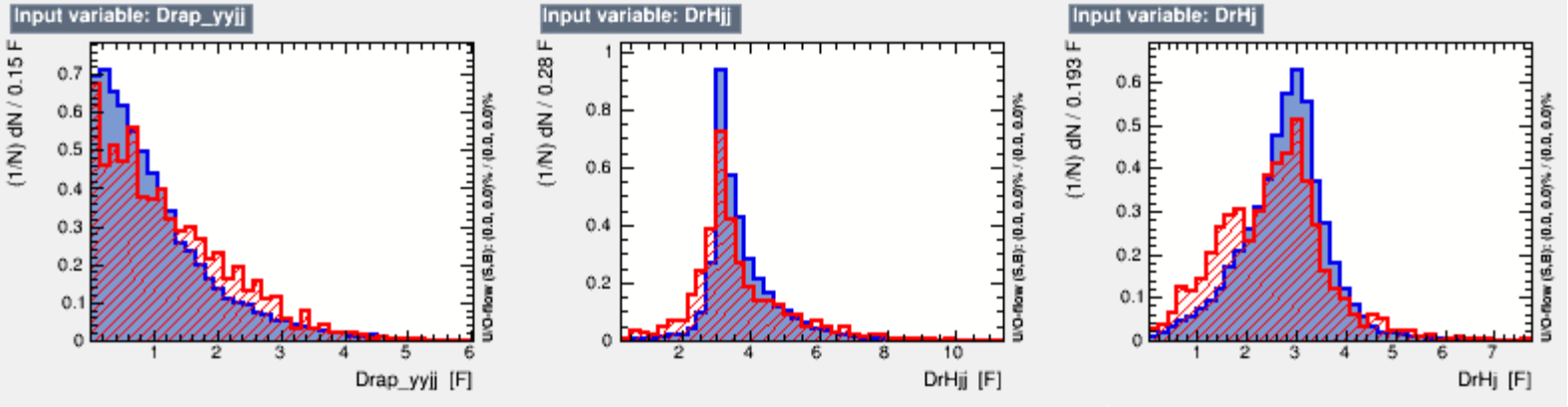

h_mjjjj
h_mjjjj
Entries 117
Mean 25
RMS 88

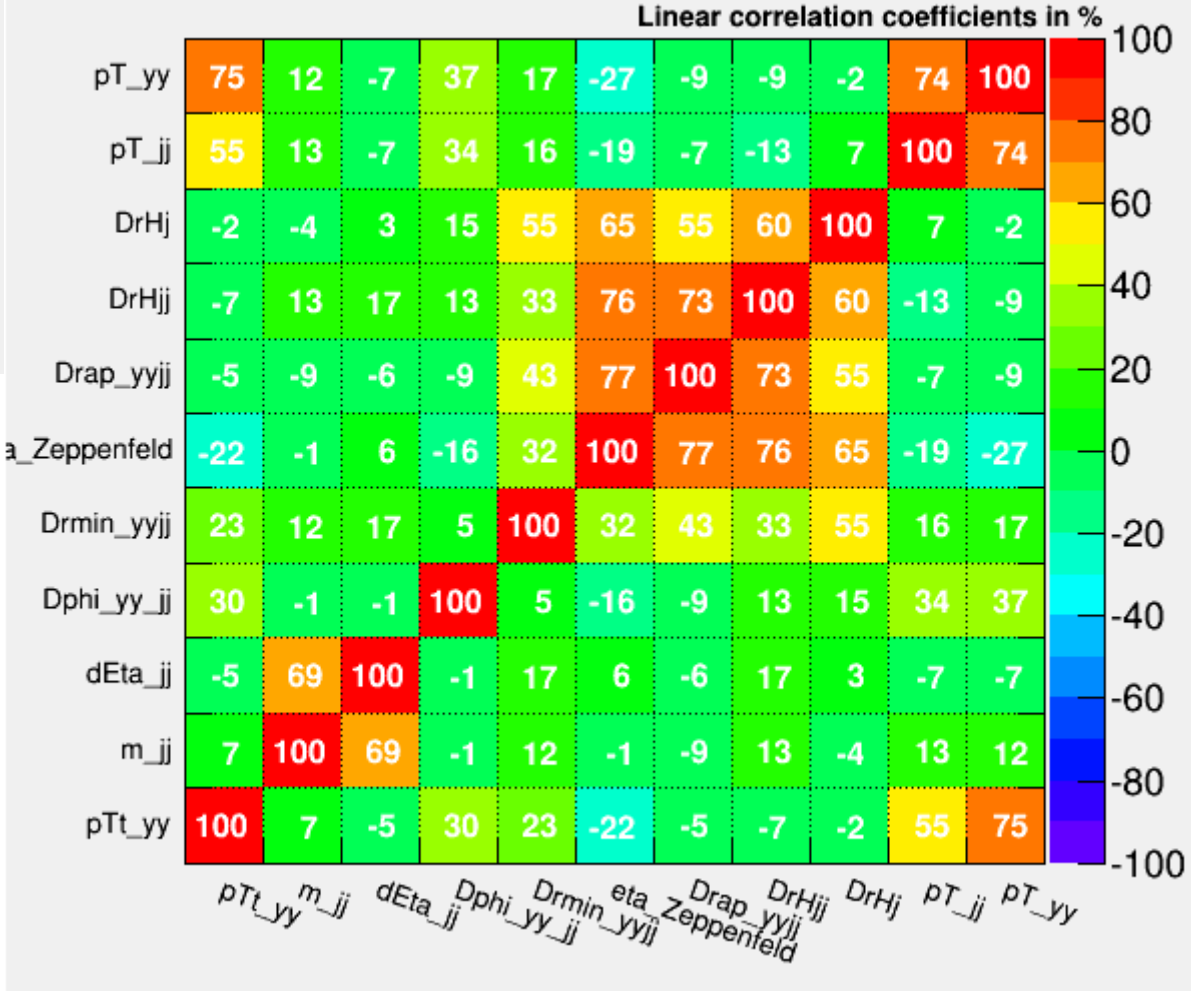

h_MET
h_MET
Entries 1179
Mean 47.31
RMS 32.5

Some preliminary study on VBF h->yy

- Using data sideband to estimate background

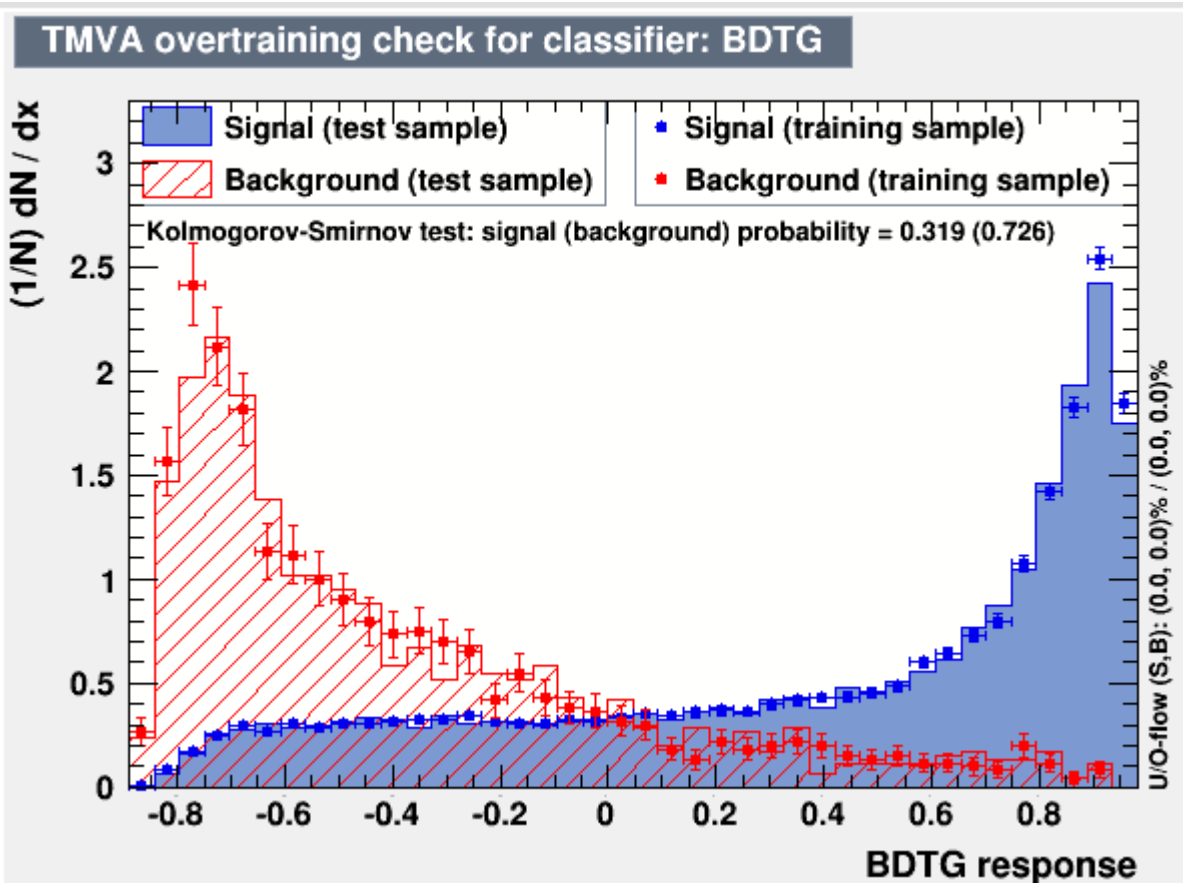






Some new variables

Later we shall drop those with high linear correlations



Rank	Variable	Variable Importance
1	dEta_jj	1.319e-01
2	Drmin_yyjj	1.150e-01
3	Drap_yyjj	1.047e-01
4	DrHj	9.411e-02
5	pT_yy	9.362e-02
6	m_jj	8.627e-02
7	DrHjj	8.277e-02
8	eta_Zeppenfeld	8.248e-02
9	Dphi_yy_jj	7.653e-02
10	pTt_yy	7.362e-02
11	pT_jj	5.900e-02

Rank	Variable	Separation
1	m_jj	2.804e-01
2	dEta_jj	2.527e-01
3	Drmin_yyjj	1.578e-01
4	pT_yy	1.578e-01
5	pT_jj	1.268e-01
6	pTt_yy	1.180e-01
7	Dphi_yy_jj	1.161e-01
8	DrHjj	6.946e-02
9	DrHj	4.433e-02
10	eta_Zeppenfeld	4.405e-02
11	Drap_yyjj	2.330e-02