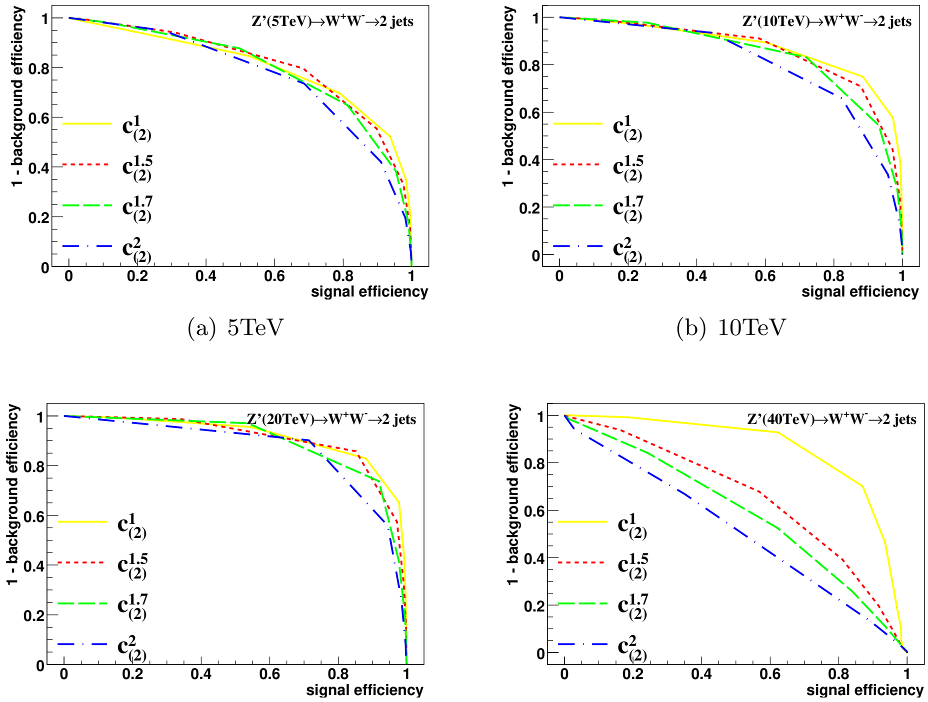


(a) 5TeV

(b) 10TeV

(c) 20TeV

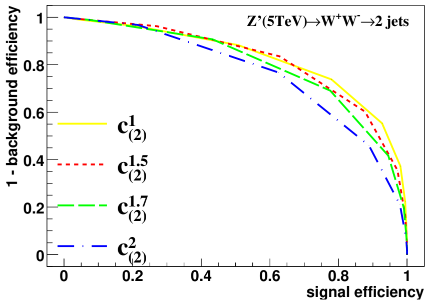
(d) 40TeV

Figure 1: Signal efficiency versus background rejection rate using $c_2^{(1)}$,$c_2^{(1.5)}$,$c_2^{(1.7)}$,$c_2^{(2)}$ in different energies of collision for the cell size of 20×20(cm×cm).The energies of collision at (a)5, (b)10, (c)20, (d)40TeV are shown here.

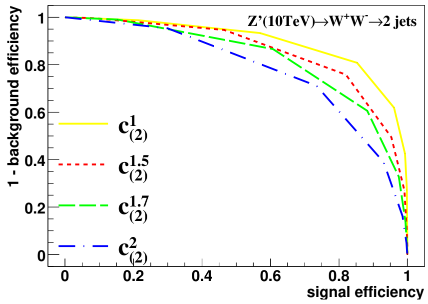
Another study about the c variables

In Reference [**?**], it is said that the c_2 will have the best separation power when $\beta = 1.7$. Here, we performed a study to see whether it is suitable for this research.

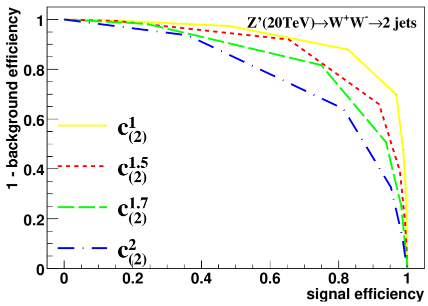
Figures 1, 2, and 3 show the ROC Curves of c_2 with different beta values at different collision energies for 1×1, 5×5, 20×20 (cmxcm) cell sizes, respectively. No improvement was observed when β was increased to 1.7 for all cell sizes. In addition, it was observed that the separation power is worse when the value of beta increased for all collision energies at all cell sizes.



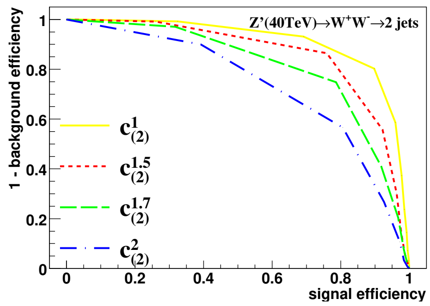
(a) 5TeV



(b) 10TeV

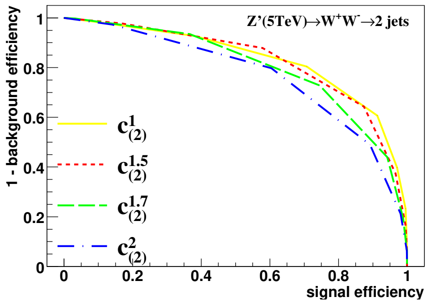


(c) 20TeV

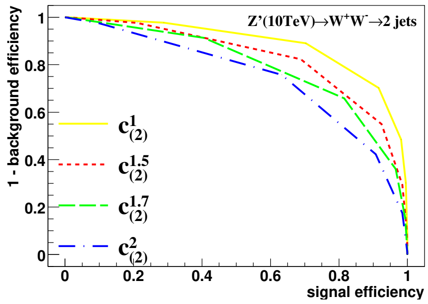


(d) 40TeV

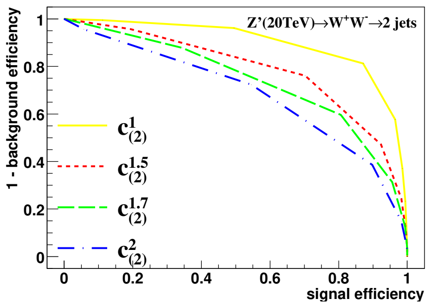
Figure 2: Signal efficiency versus background rejection rate using $c_2^{(1)}$,$c_2^{(1.5)}$,$c_2^{(1.7)}$,$c_2^{(2)}$ in different energies of collision for the cell size of 5×5(cm×cm).The energies of collision at (a)5, (b)10, (c)20, (d)40TeV are shown here.



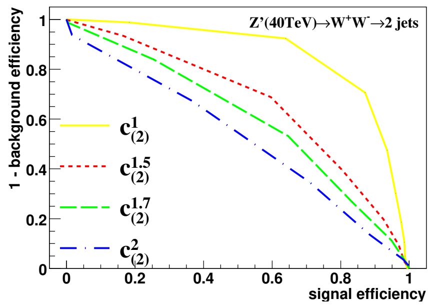
(a) 5TeV



(b) 10TeV



(c) 20TeV



(d) 40TeV

Figure 3: Signal efficiency versus background rejection rate using $c_2^{(1)}$,$c_2^{(1.5)}$,$c_2^{(1.7)}$,$c_2^{(2)}$ in different energies of collision for the cell size of 1×1(cm×cm).The energies of collision at (a)5, (b)10, (c)20, (d)40TeV are shown here.