

Cut 条件

```
if(Nchrgds<2) continue;  
if(Thetaof2emaxofall>0&&Thetaof2emaxofall<10&&Emax2ofall  
>0.65*0.5*ecm) continue;  
if(Esumofall<=0.25*0.5*ecm) continue;  
if(Nchrgds>=2&&Nchrgds<=3&&Thetaofchrgds<15&&Phiofchrg  
ds<10) continue;  
if(Nchrgds==2&&Nisontrs<2) continue;
```

Nchrgds: 带电径迹数

Thetaof2emaxofall: 两个能量最大径迹夹角

Emax2ofall: 最大径迹能量

Esumofall: 沉积能量

Thetaofchrgds: $|\theta_1 + \theta_2 - 180|$; Phiofchrgds: $||\varphi_1 - \varphi_2| - 180|$

Nisontrs: 孤立光子数

2.8效率

* Ecm	had_eff	bb_eff	dimu_eff	digam_eff	twogam_eff
0	0.670740	0.000586	0.001920	0.001064	0.027088
* 1	0.771405	0.044700	0.961734	0.012510	0.364332
* 2	0.909285	0.998536	1.000000	0.475006	1.000000
* 3	0.837365	0.184422	0.871366	0.711494	0.351868
* 4	0.872390	0.964052	0.158548	0.999924	0.957786
* 5	0.825960	0.956174	0.041458	0.988638	0.664406
* 6	0.750815	0.153788	0.006064	0.175472	0.085880
* 7	0.670805	0.000598	0.001920	0.001102	0.027088
* 8	0.674315	0.000604	0.001954	0.001082	0.028238
* 9	0.684190	0.000768	0.003120	0.001084	0.027552
* 10	0.721370	0.008442	0.106906	0.012038	0.259740
* 15	0.687910	0.000874	0.003192	0.001148	0.028738
* 154	0.674380	0.000616	0.001954	0.001120	0.028238

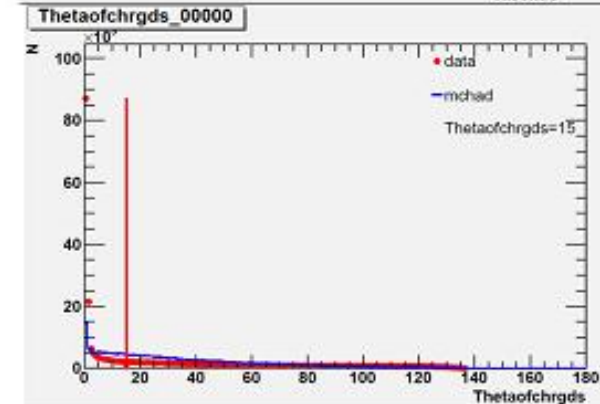
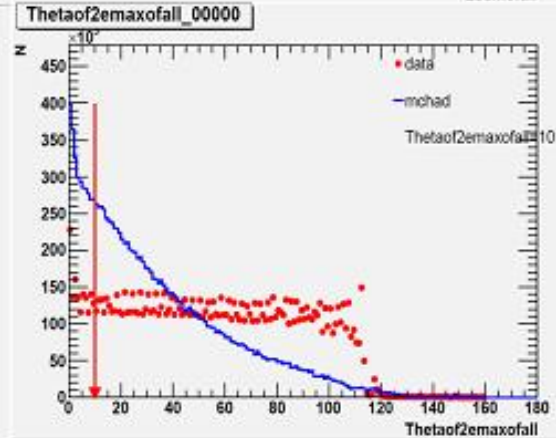
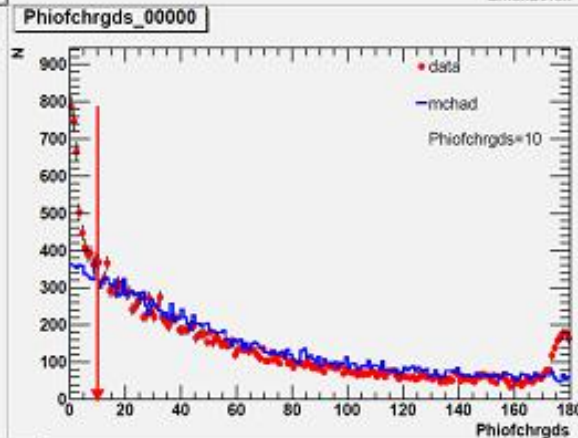
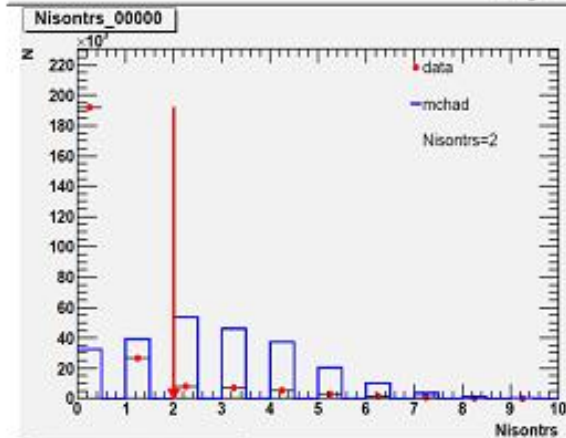
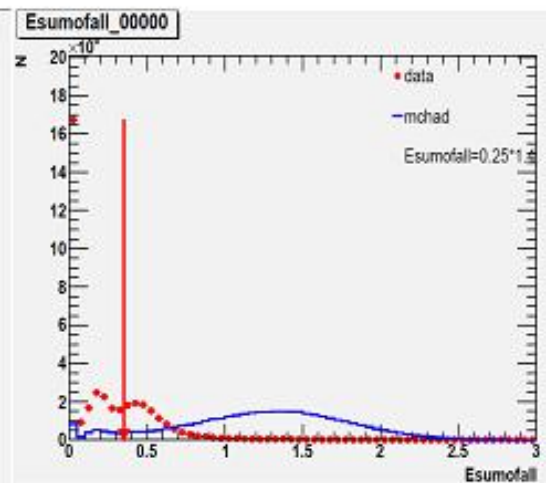
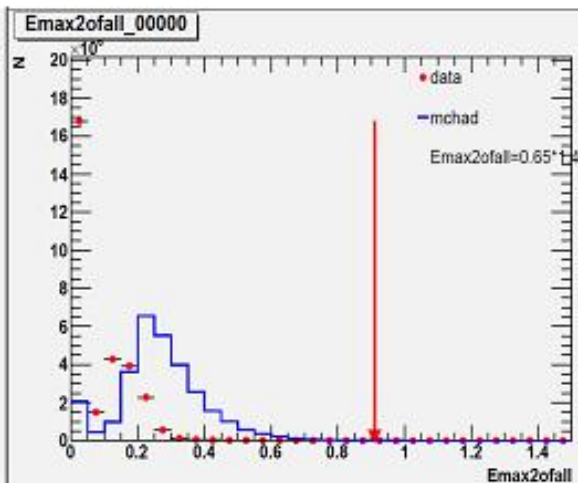
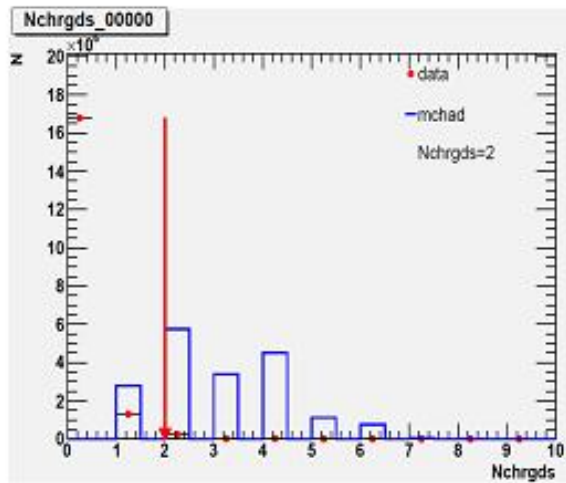
* 其中0: 所有条件都使用的效率

* 1-5: 单独使用一条cut

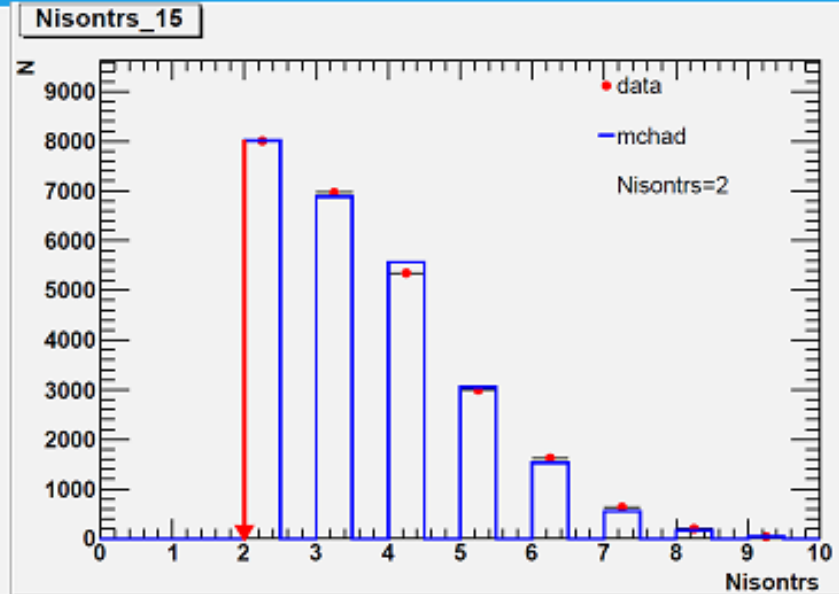
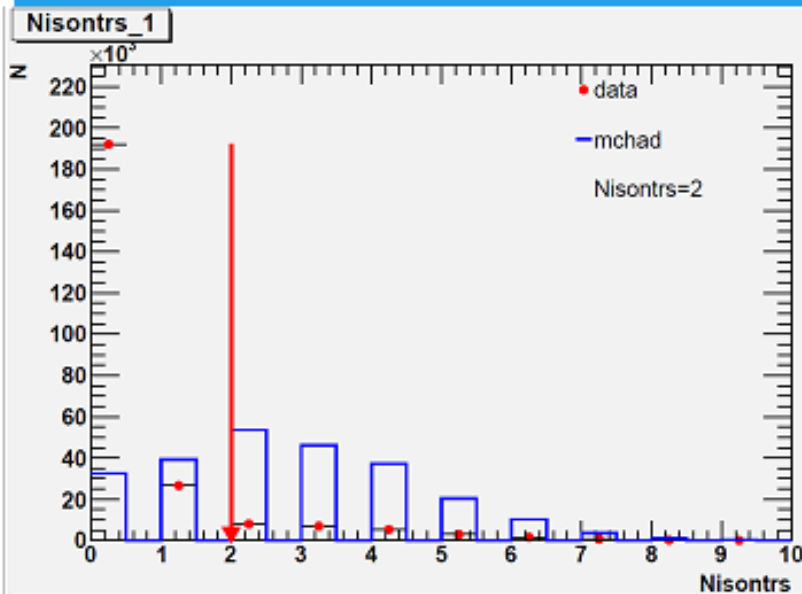
* 6-10: 单独去掉一条cut

* 15和154: 分别为加上第1、5两条cut和加上1、5、4三条cut的结果。

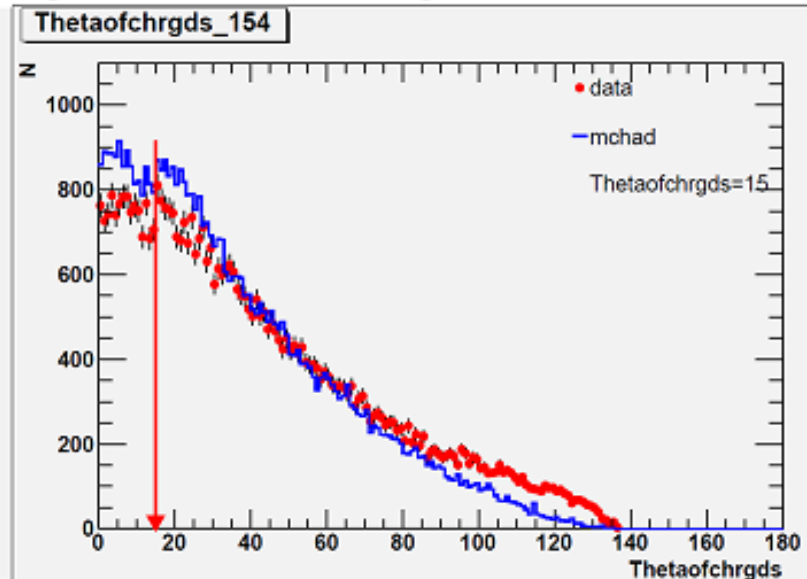
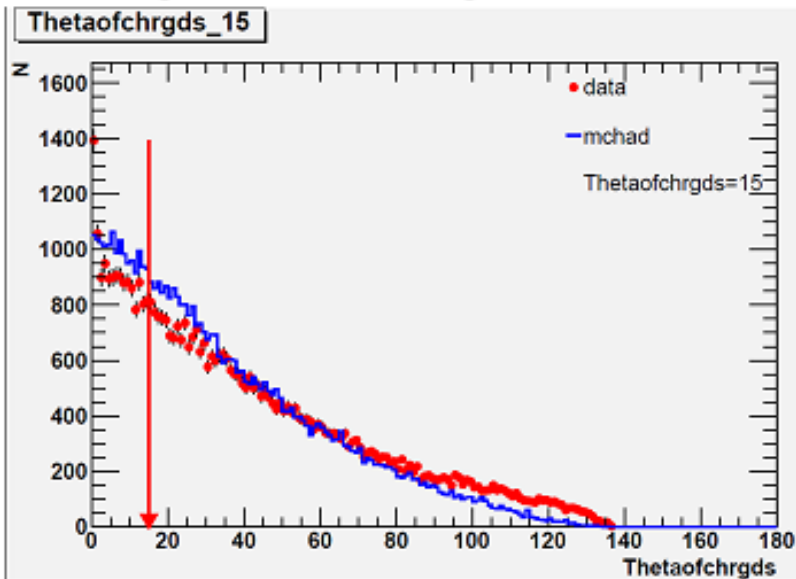
* 从结果看cut条件影响效率的大小排列应为15432。



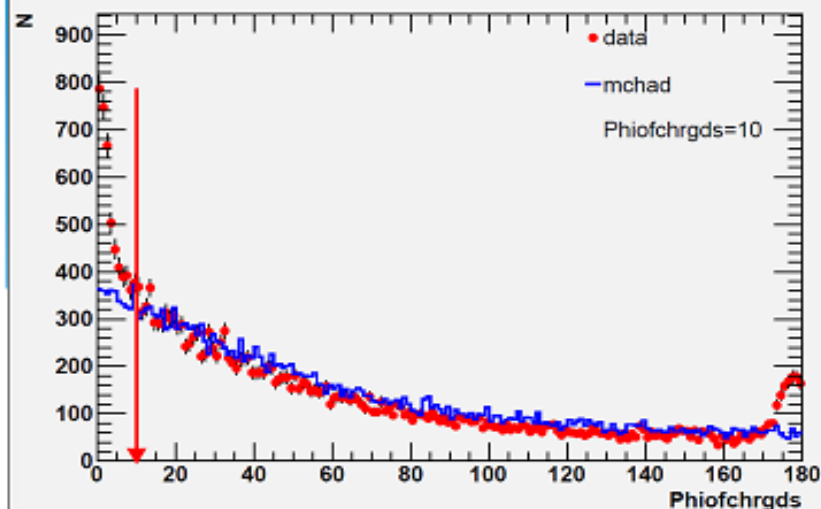
```
if(Nchrgds==2&&Nisontrs<2) continue;
```



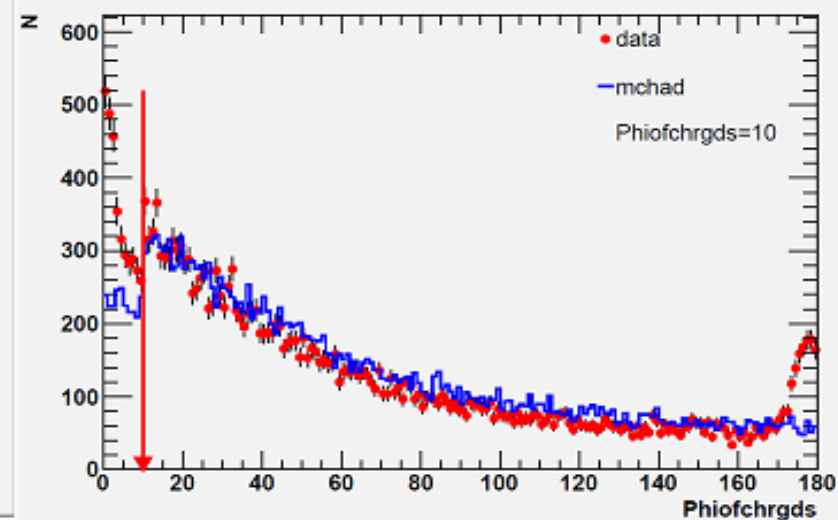
```
if(Nchrgds>=2&&Nchrgds<=3&&Thetaofchrgds<15&&Phiofchrgds<10) continue;
```



Phiofchrgds_15

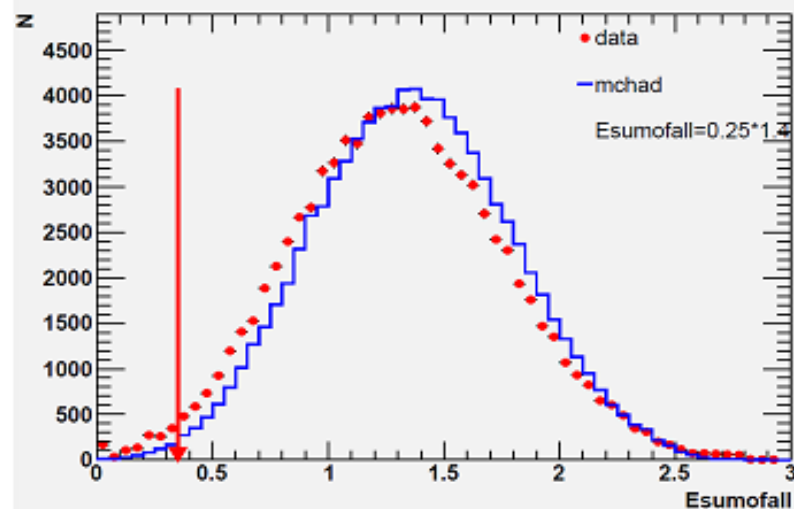


Phiofchrgds_154

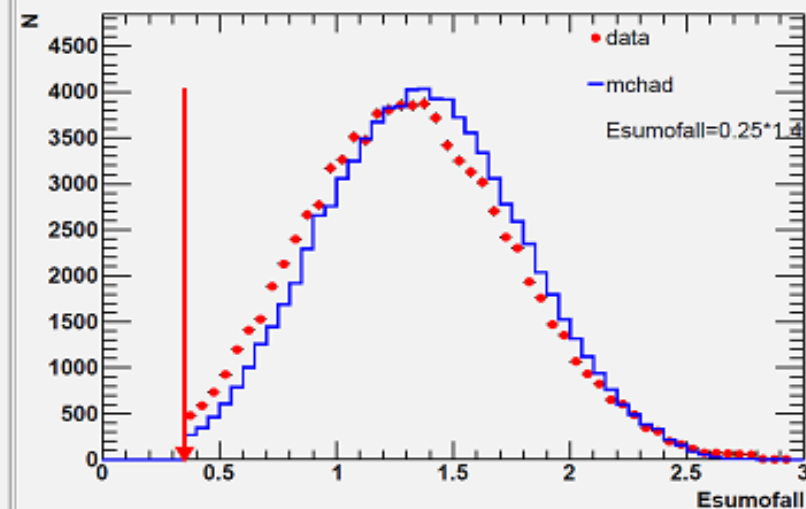


if($\text{Esumofall} \leq 0.25 \cdot 0.5 \cdot 2.8$) continue; $5 \cdot 0.5 \cdot 2.8$) continue;

Esumofall_154

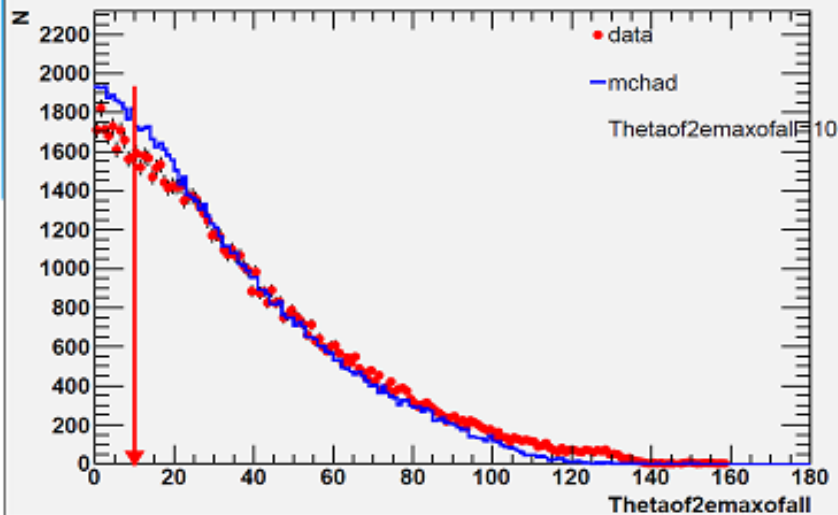


Esumofall_7

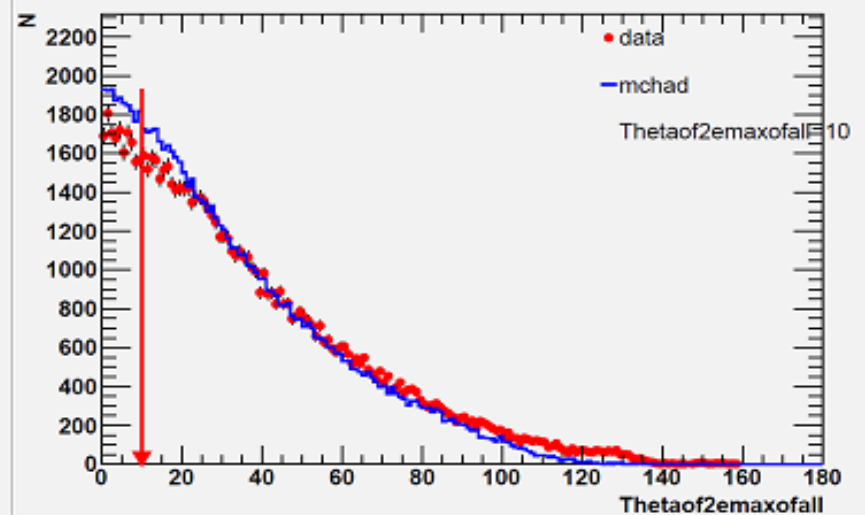


if(Thetaof2emaxofall>0&&Thetaof2emaxofall<10&&Emax2ofall>0.65*0.5*2.8)

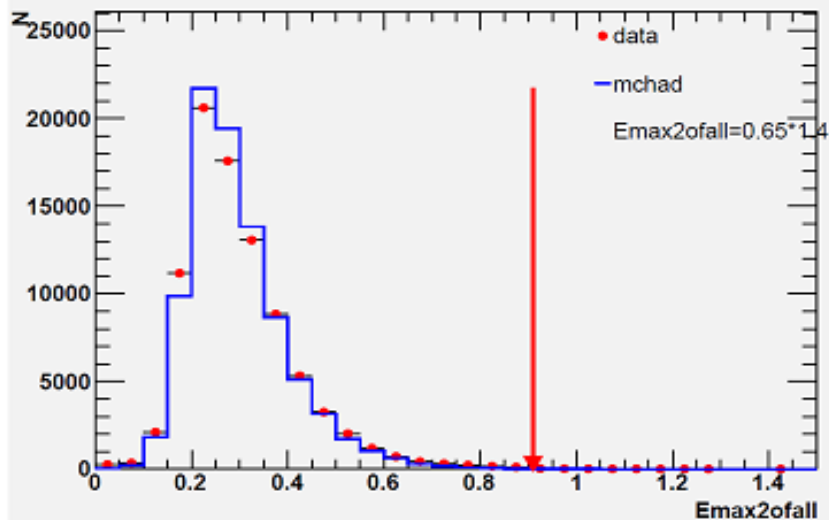
Thetaof2emaxofall_7



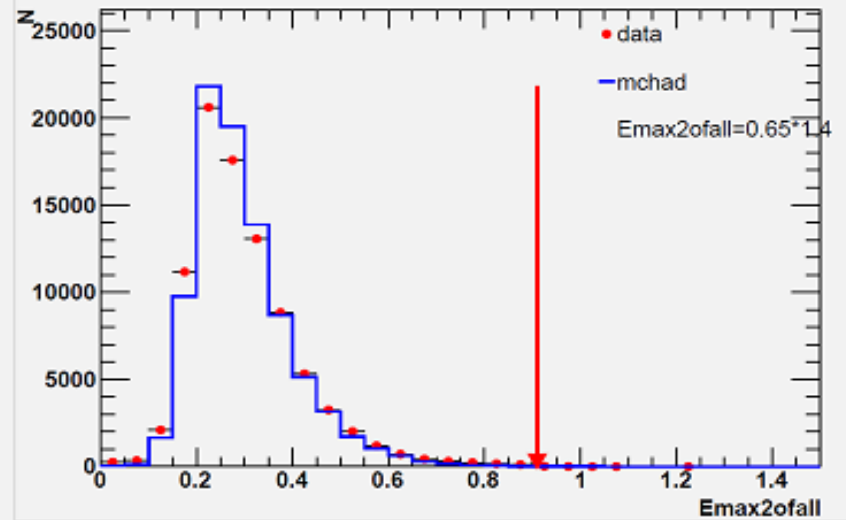
Thetaof2emaxofall_0



Emax2ofall_7



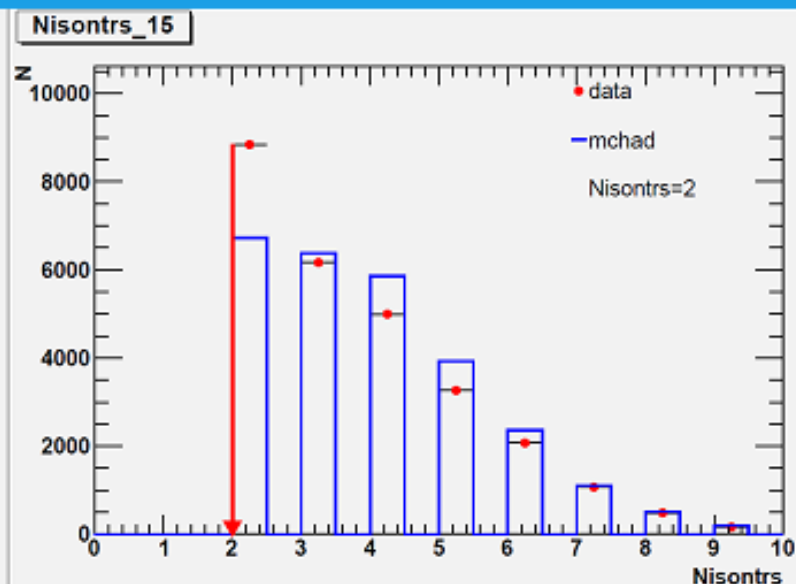
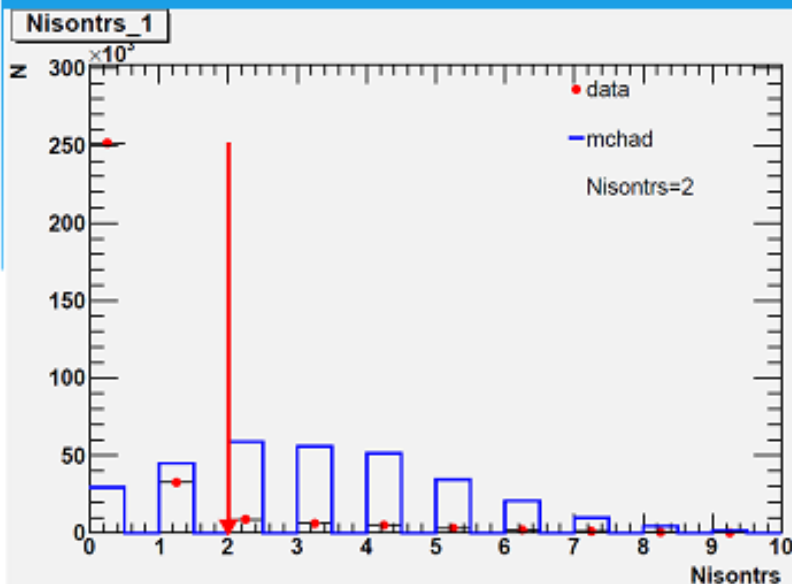
Emax2ofall_0



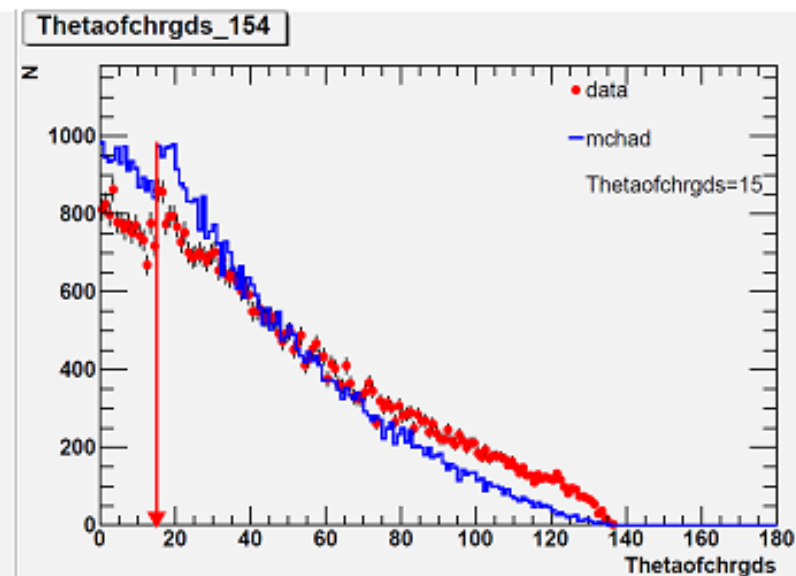
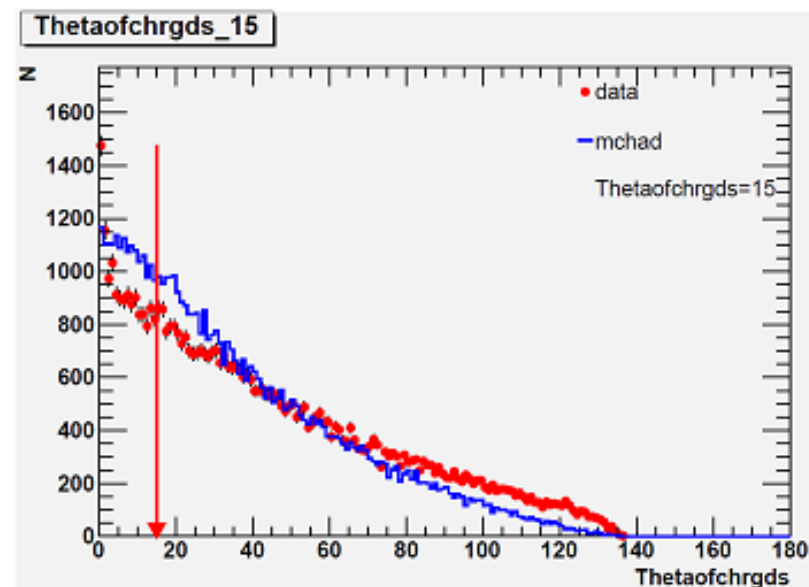
3.65效率

	Ecm	had_eff	bb_eff	dimu_eff	digam_eff	twogam_eff	ditau_eff
*	0	0.703025	0.000658	0.002072	0.001018	0.023252	0.473804
*	1	0.771445	0.038866	0.947512	0.011682	0.326108	0.843842
*	2	0.899965	0.997332	1.000000	0.478172	0.999996	1.000000
*	3	0.812695	0.180854	0.287442	0.711602	0.238852	0.878044
*	4	0.877240	0.969634	0.176138	0.999906	0.965024	0.988462
*	5	0.849515	0.962066	0.056322	0.989450	0.699730	0.645042
*	6	0.760460	0.152758	0.006192	0.179552	0.073312	0.587354
*	7	0.703080	0.000670	0.002072	0.001072	0.023252	0.473804
*	8	0.708120	0.000674	0.002226	0.001050	0.025342	0.482734
*	9	0.715535	0.000842	0.003242	0.001040	0.023658	0.479810
*	10	0.734060	0.008170	0.045262	0.011158	0.170412	0.754044
*	15	0.720890	0.000932	0.003834	0.001132	0.025838	0.488884
*	154	0.708175	0.000686	0.002226	0.001104	0.025342	0.482734

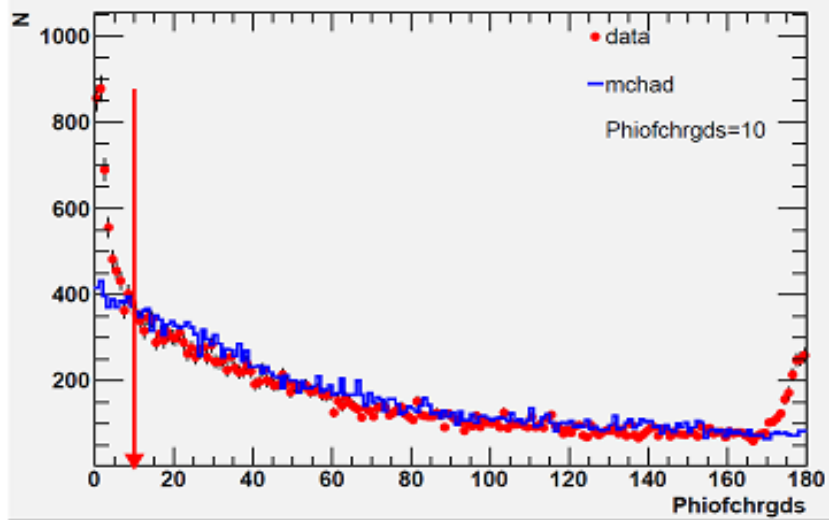
`if(Nchrgds==2&&Nisontrs<2) continue;`



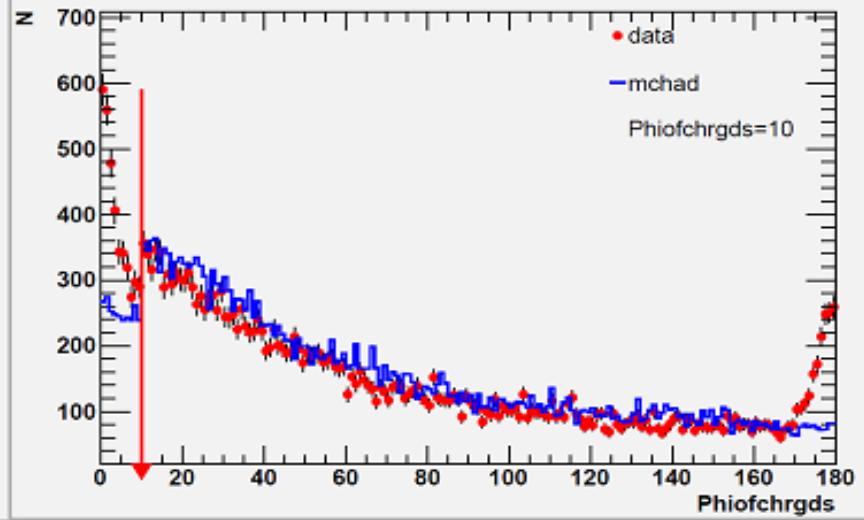
`if(Nchrgds>=2&&Nchrgds<=3&&Thetaofchrgds<15&&Phiofchrgds<10) continue;`



Phiofchrgds_15



Phiofchrgds_154



RvalueAlg与HadronSelAlg关于强子选择效率对比

* Cut条件顺序统一到科大程序，强子MC的效率对比：

- * `if(Thetaof2emaxofall>0&&Thetaof2emaxofall<10&&Emax2ofall>0.65*0.5*2.8) continue;`
- * `if(Nchrgds<2) continue;`
- * `if(Esumofall<=0.25*0.5*2.8) continue;`
- * `if(Nchrgds==2&&(Nisontrs<2 || (Thetaofchrgds<15&&Phiofchrgds<10))) continue;`
- * `if(Nchrgds==3&&Thetaofchrgds<15&&Phiofchrgds<10) continue;`

* 对于20000事例：

	HadronSelAlg	RvalueaAlg
N0=	20000	20000
N1=	19967	19967
N2=	15623	15635
N3=	15358	15363
N4=	13946	13948
N5=	13798	13798

对于Nchrgd>=2条件的差别主要在于从mdc中读数时使用的是mdcTrk和mdcKalTrk的不同。