Columbia University

Progress report on K* mu+ mu- reconstruction

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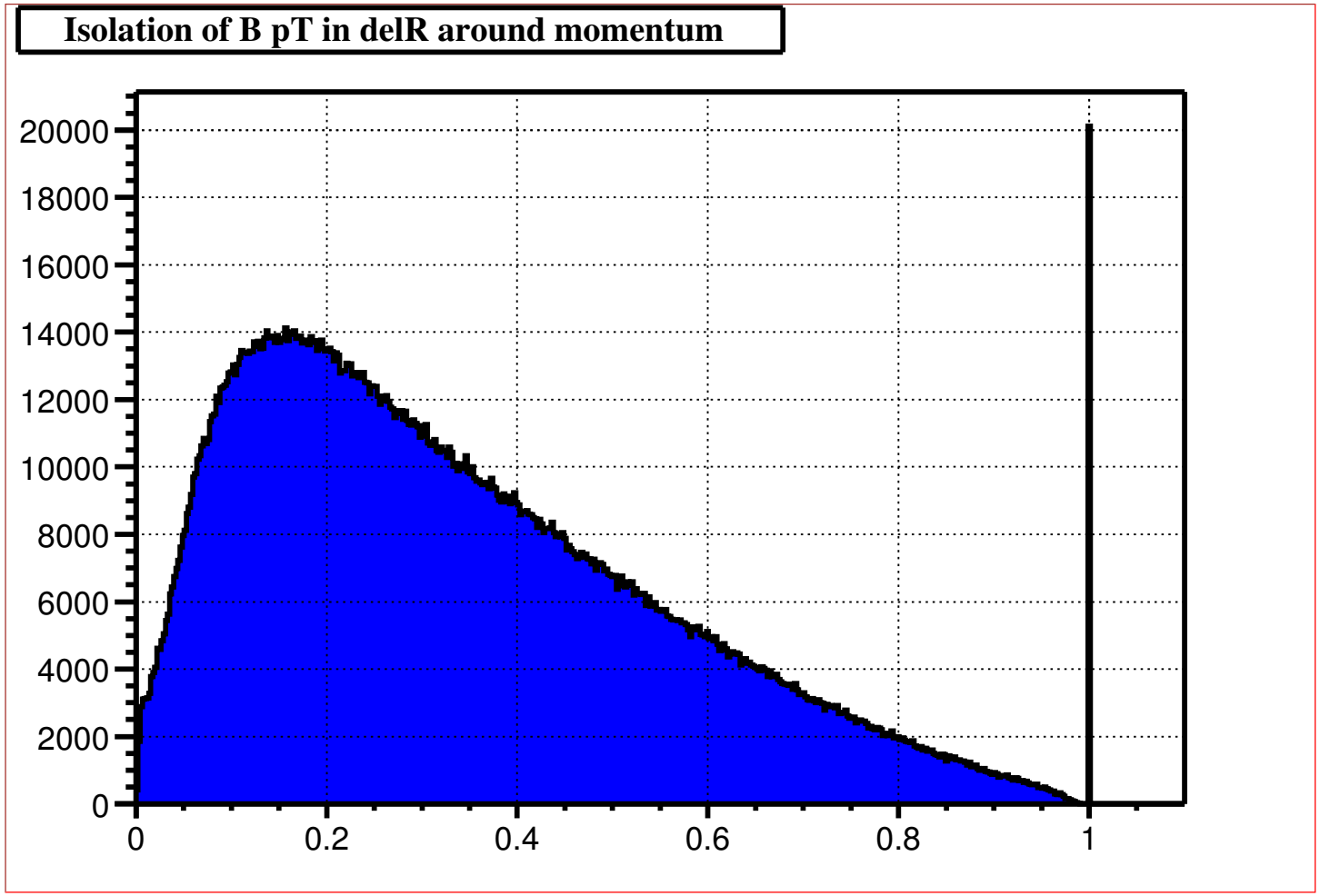
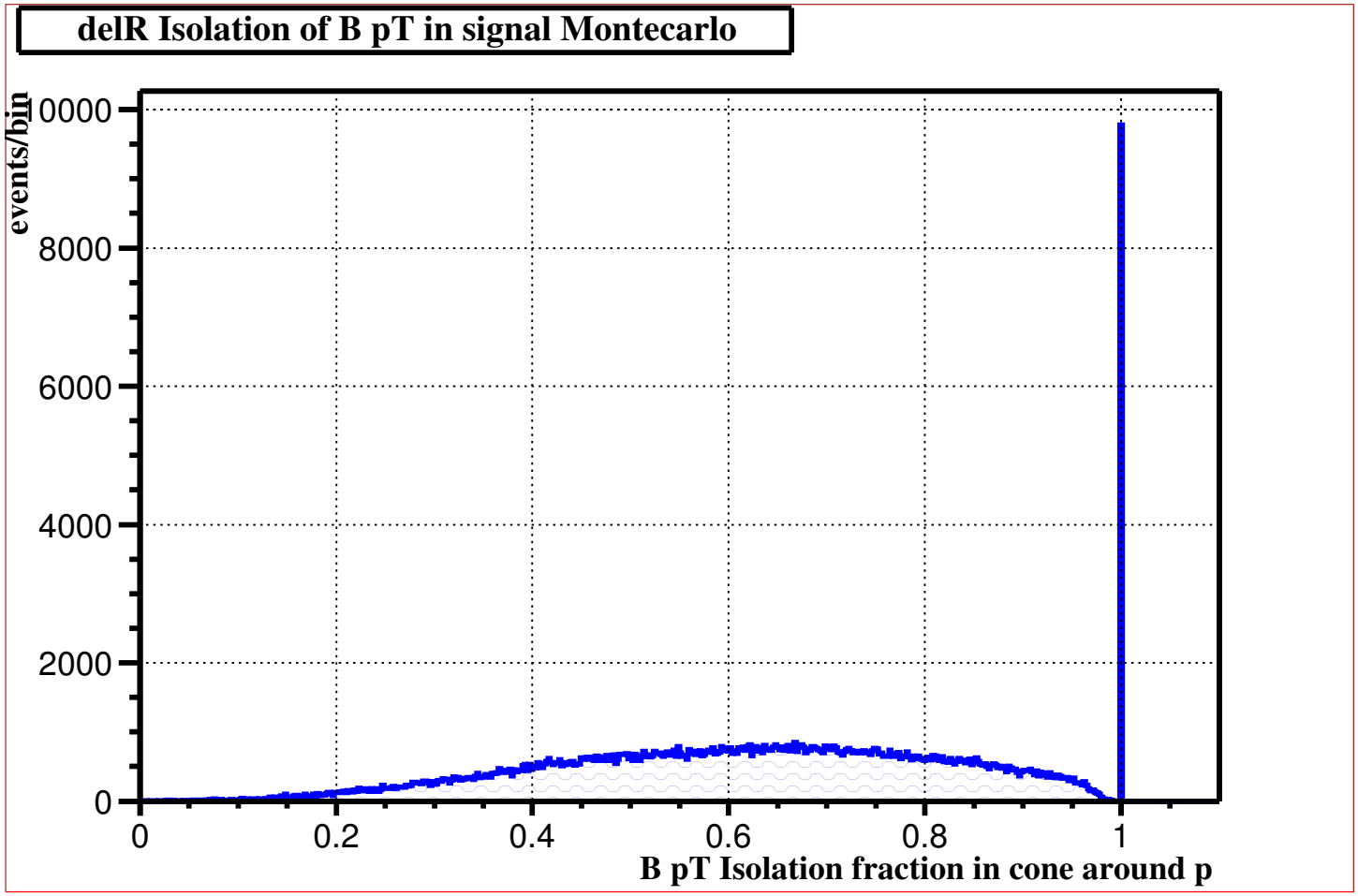
Efficiencies

Inefficiencies	Value	Events	Inefficiency (%)	MC Inefficiency (%)
	Events	880000		75900.0
	Candidates	7974996		230749.0
Too Many Tracks	>300	1647	0.2	0.0
No Pimary Vertex		34496	3.9	0.1
No muon match to central track		142718	16.2	10.4
No opp. Chg dimuons		336440	38.2	42.4
Duplicate Muon Tracks		720	0.1	0.1
Dimuon vetex	!Good Vertex or kinmatics	73046	8.3	0.4
No B	0.5<Mks<1.2,4.5<Mb<6.0 or no	114720	13.0	14.1
	Total	703787	80.0	67.5
Cuts	Values	Events		Montecarlo
	Candidates	3008399		199147
Pi Track	Nhits > 3 (smt + cft)	1678951		160775
K Track	Nhits > 3 (smt + cft)	1018708		133819
Chi 2 dimuon	>2	522593		106102
Chi 2 Kstar	>2	271633		73645
Chi2 B	>2	204308		46624
Pv B vtx separation	> 0.04 cm	5265		7688
B isolation	> 0.6	1165		6444
dca/sigdca muon 1	> 2	557		5278
dca/sigdca muon 1	> 2	357		4609
dca/sigdca k	> 2	159		2469
dca/sigdca pi	> 2	116		1648
match to signal event (mc only)				838

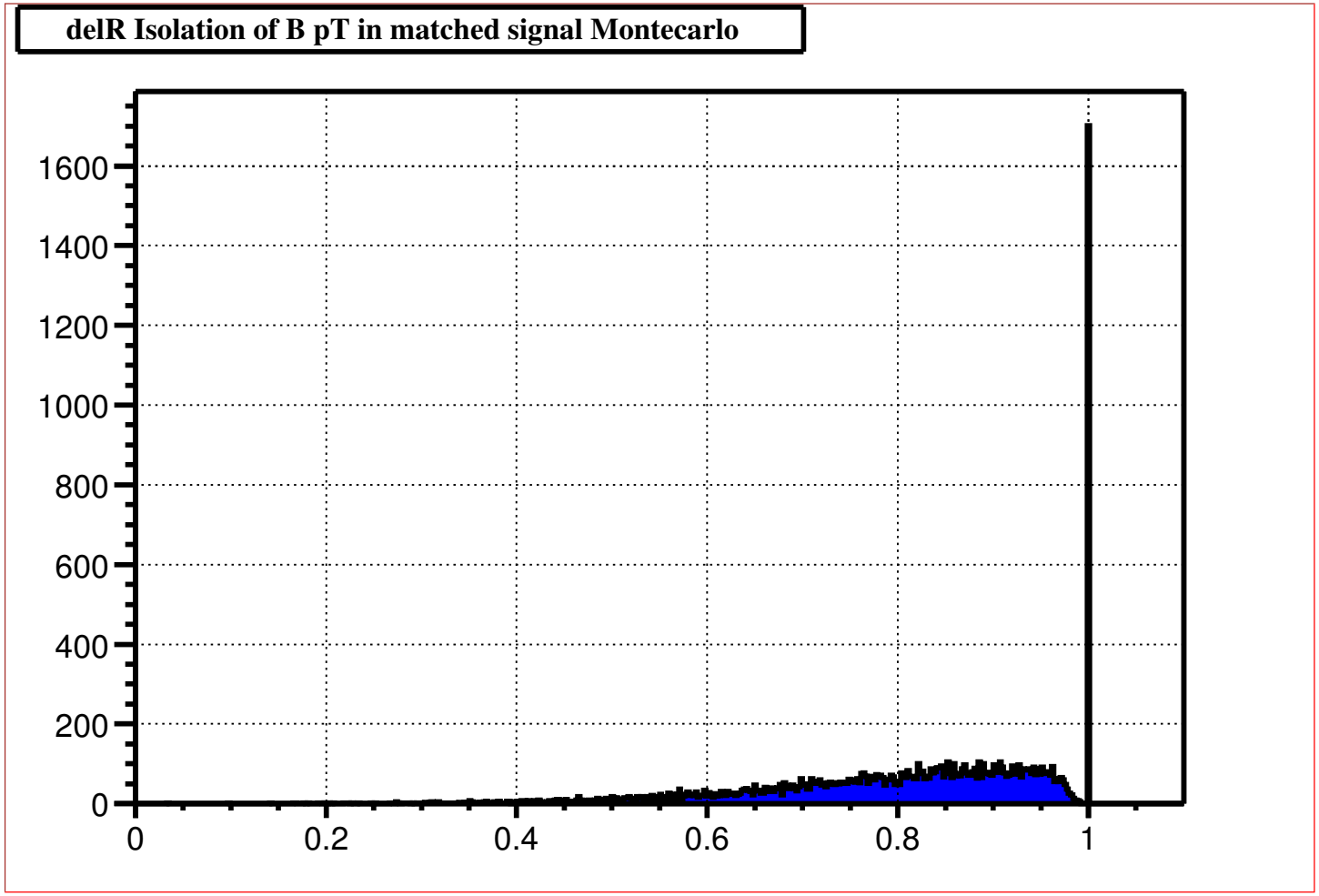
Isolation fraction of the B (in pt)



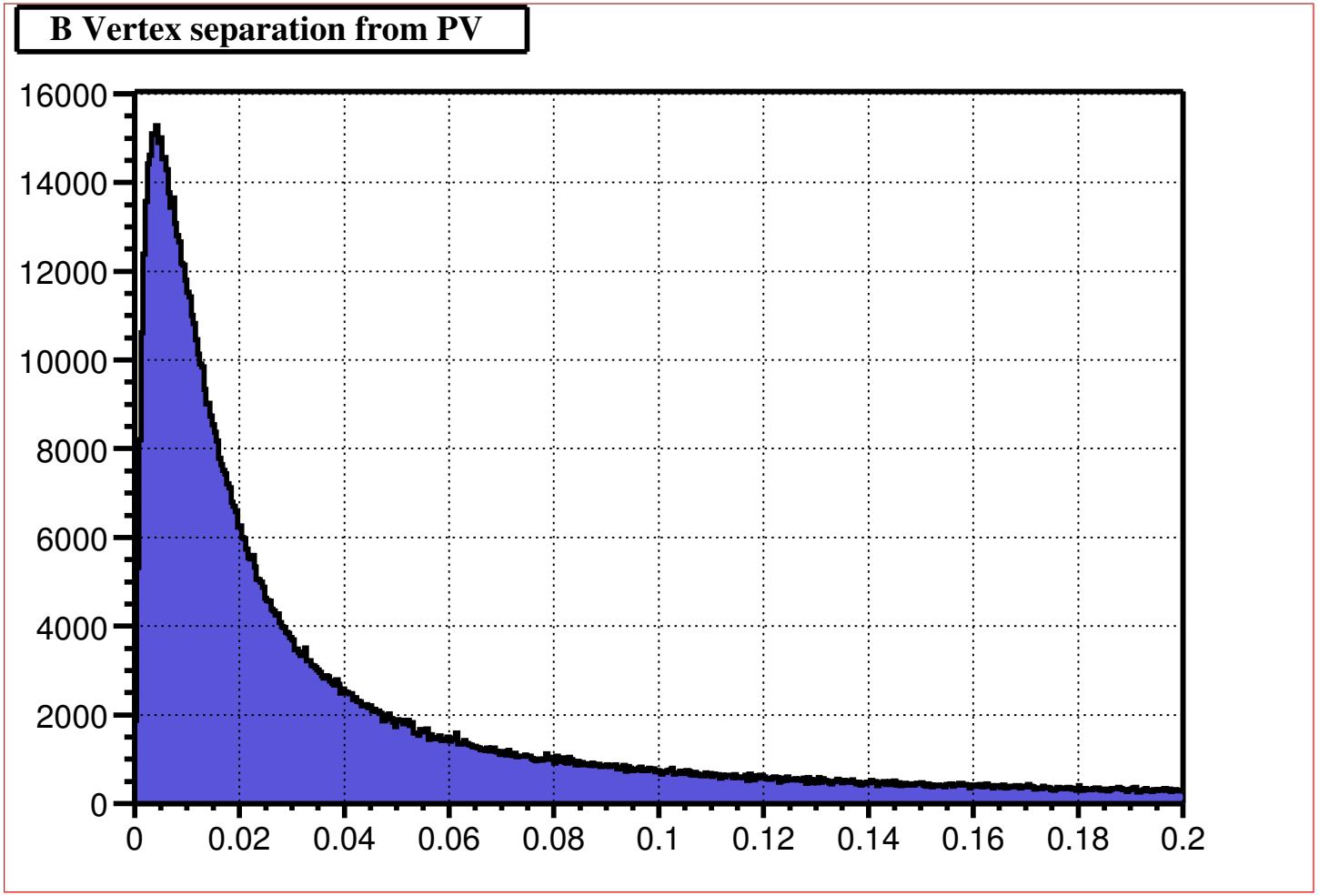
Isolation fraction in MC



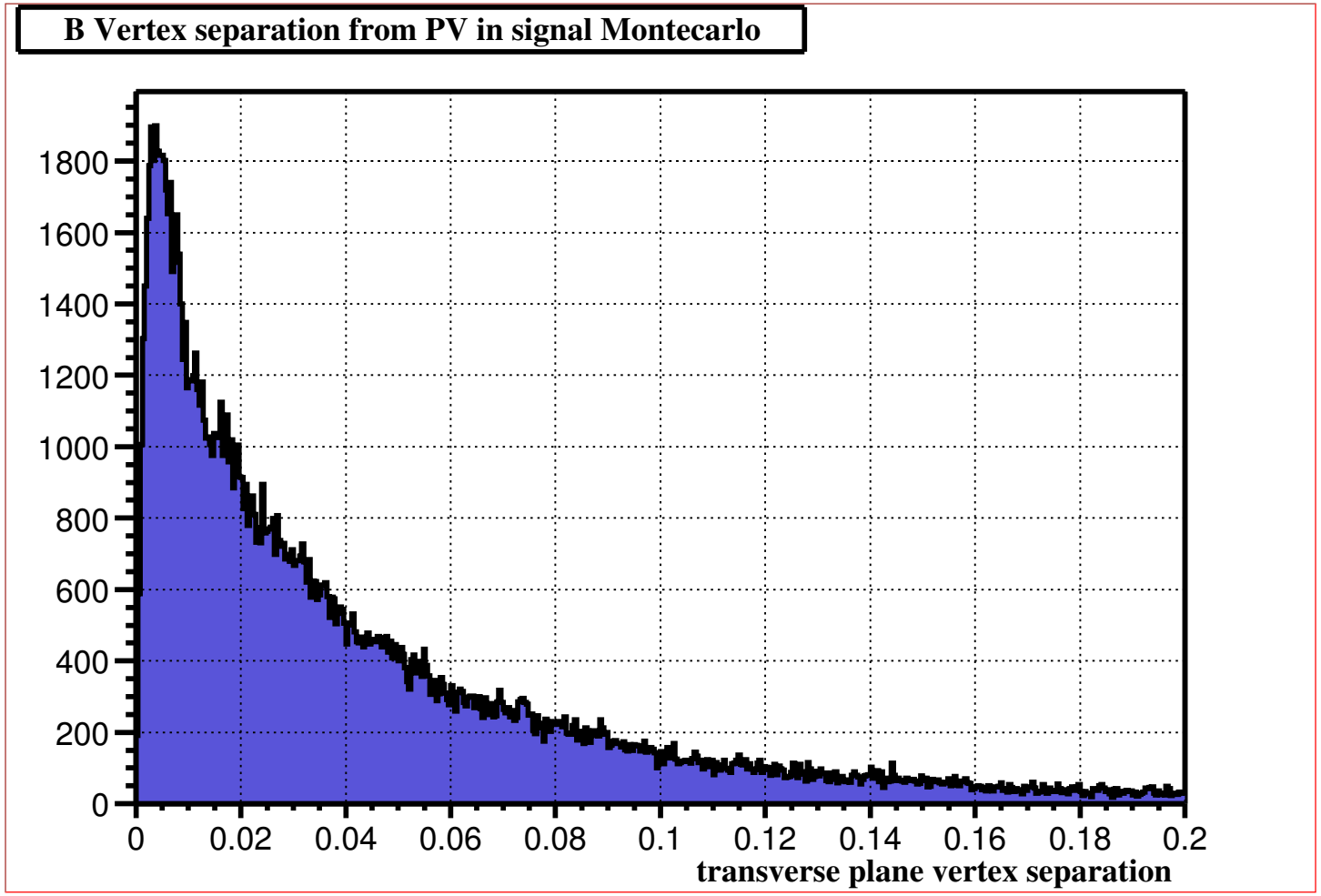
Isolation fraction MC match



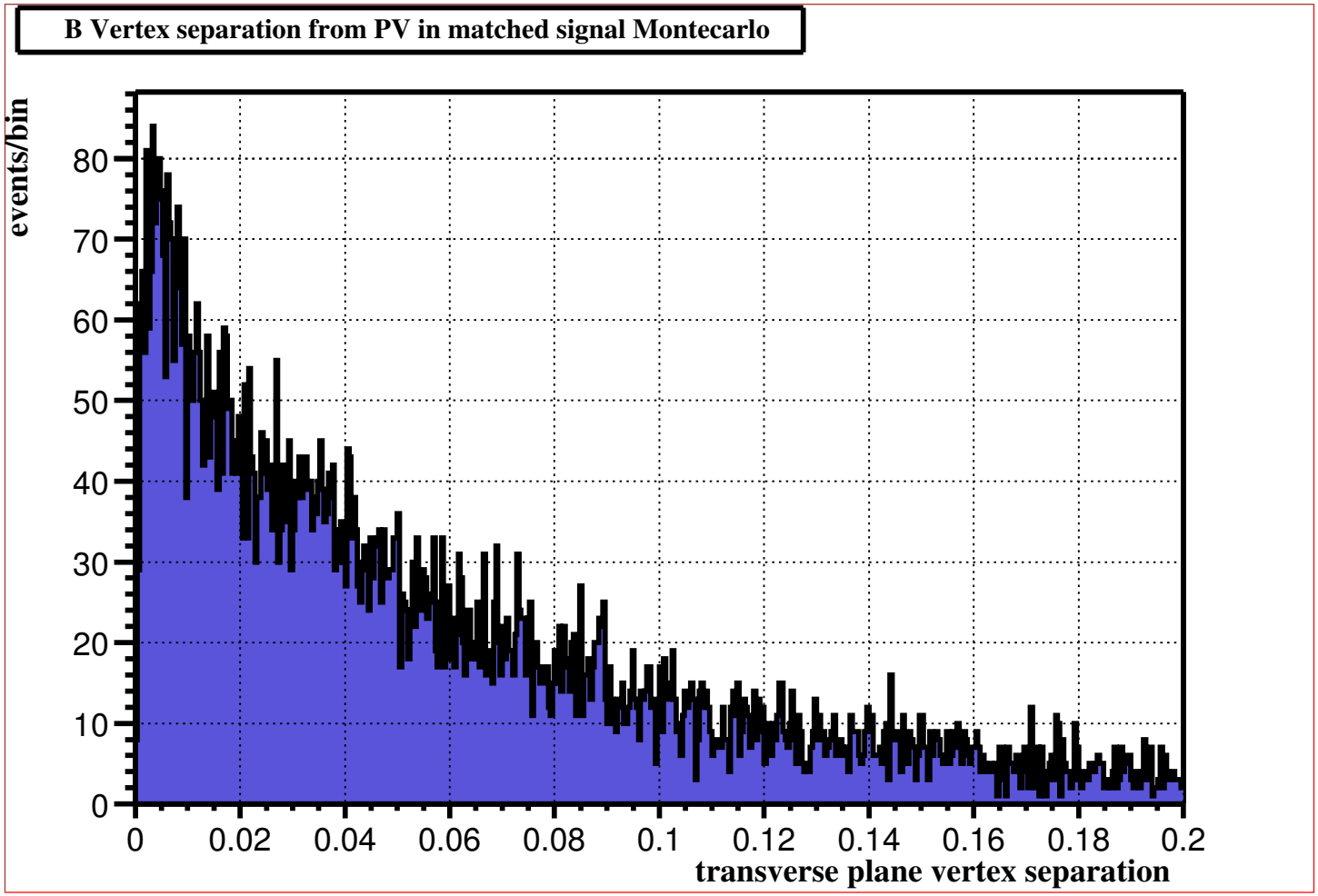
Vertex Separation B and PV



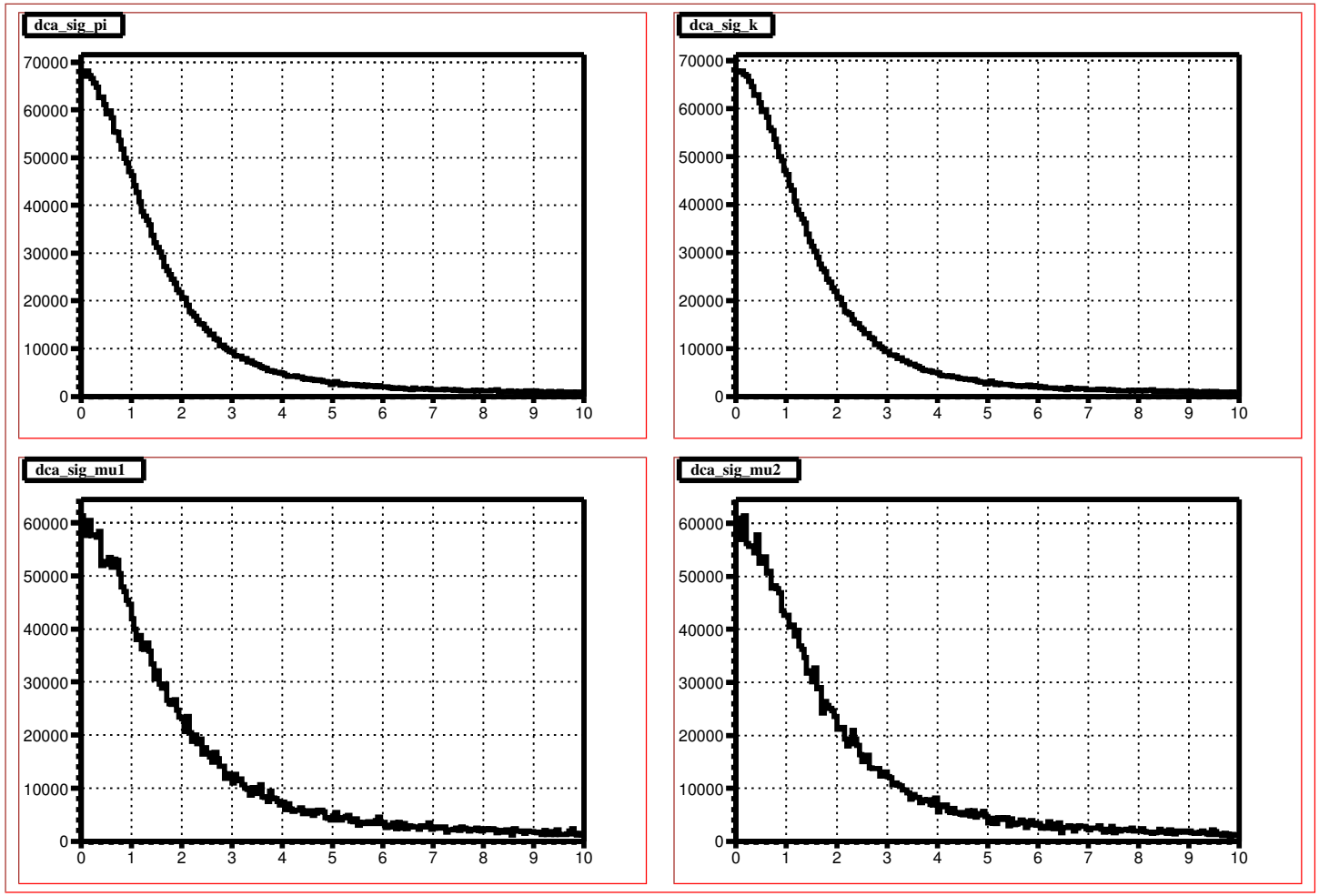
Vertex Separation in MC



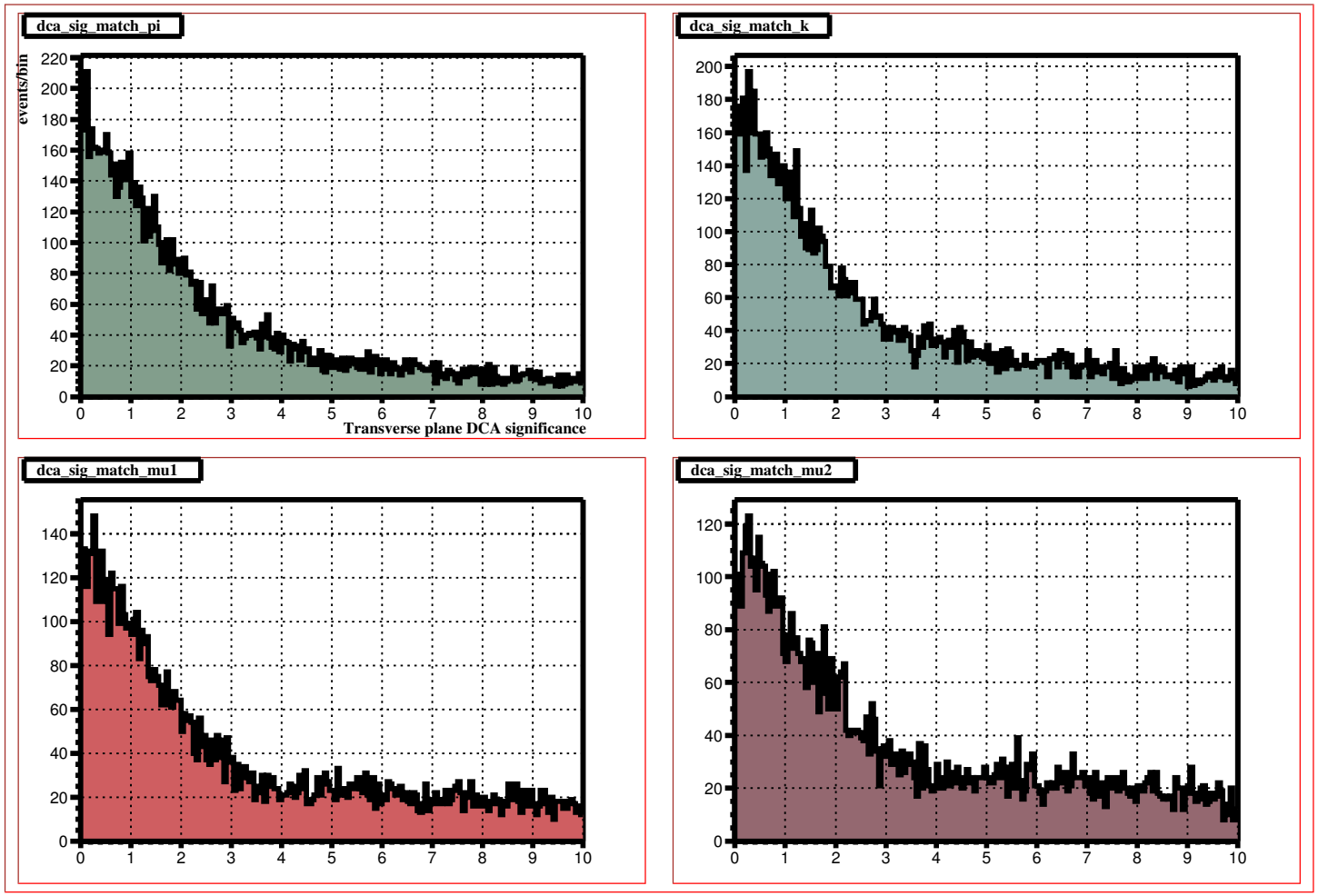
Vertex Separation in MC match



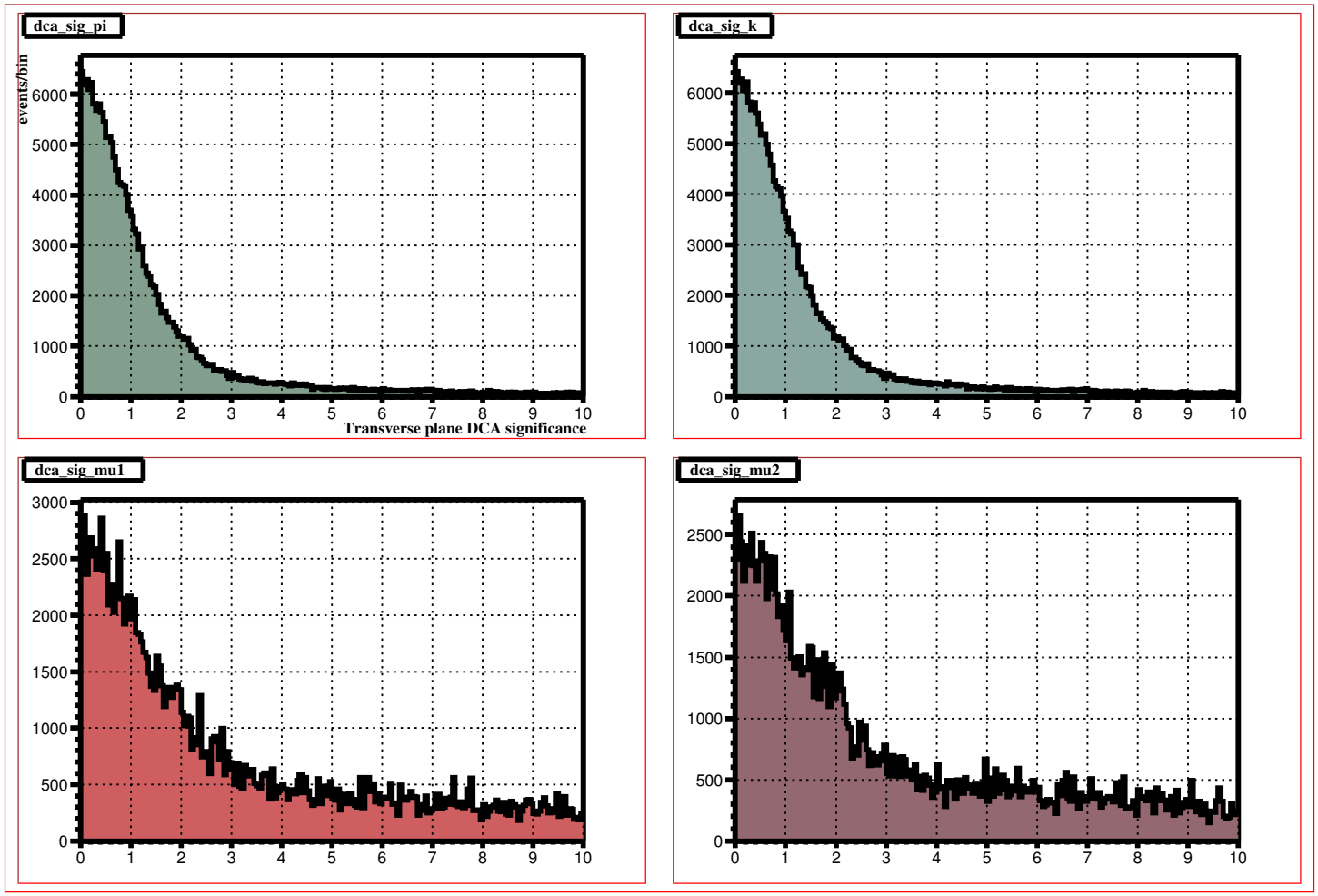
DCA significance of tracks



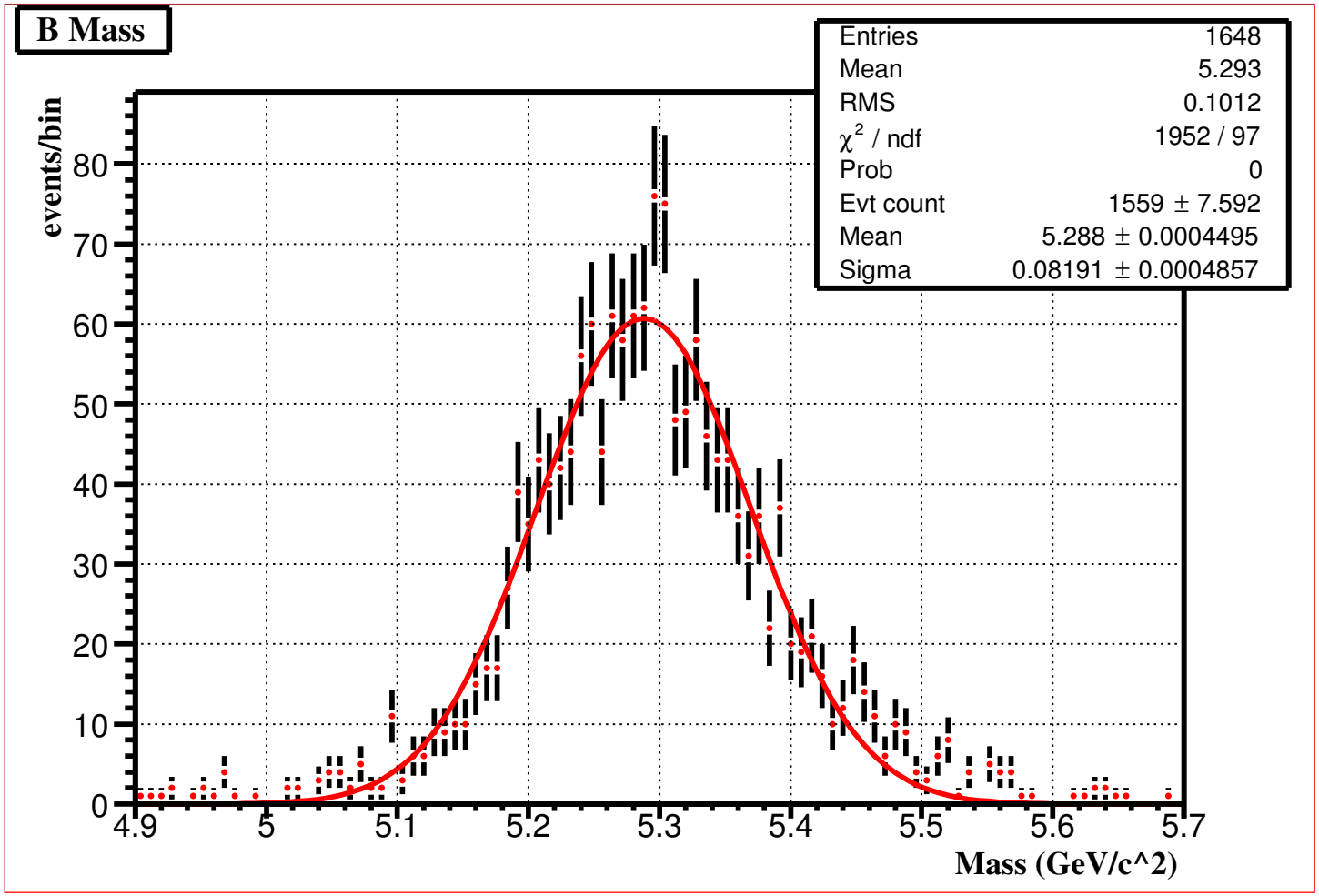
DCA Significance MC



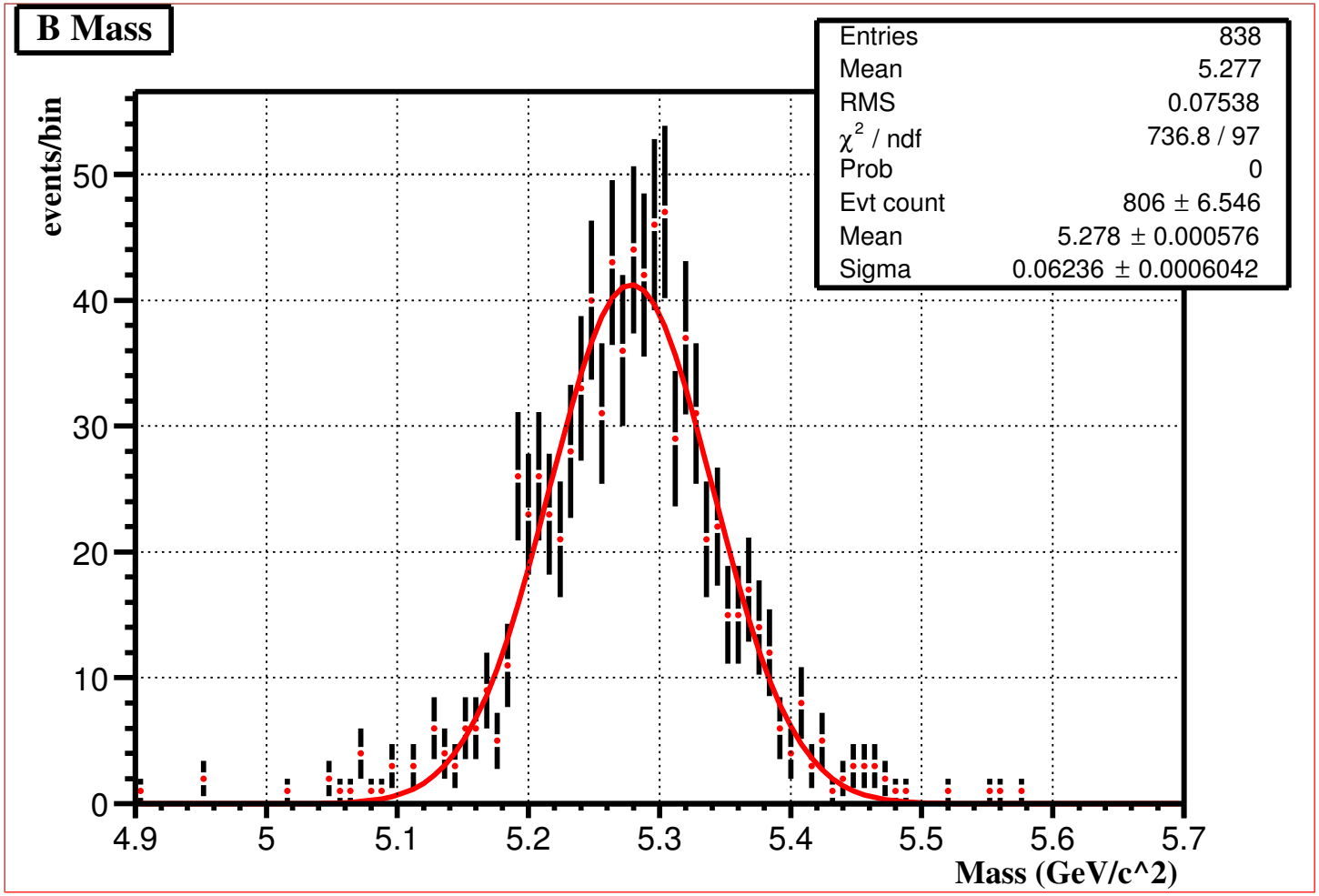
DCA Significance MC 2



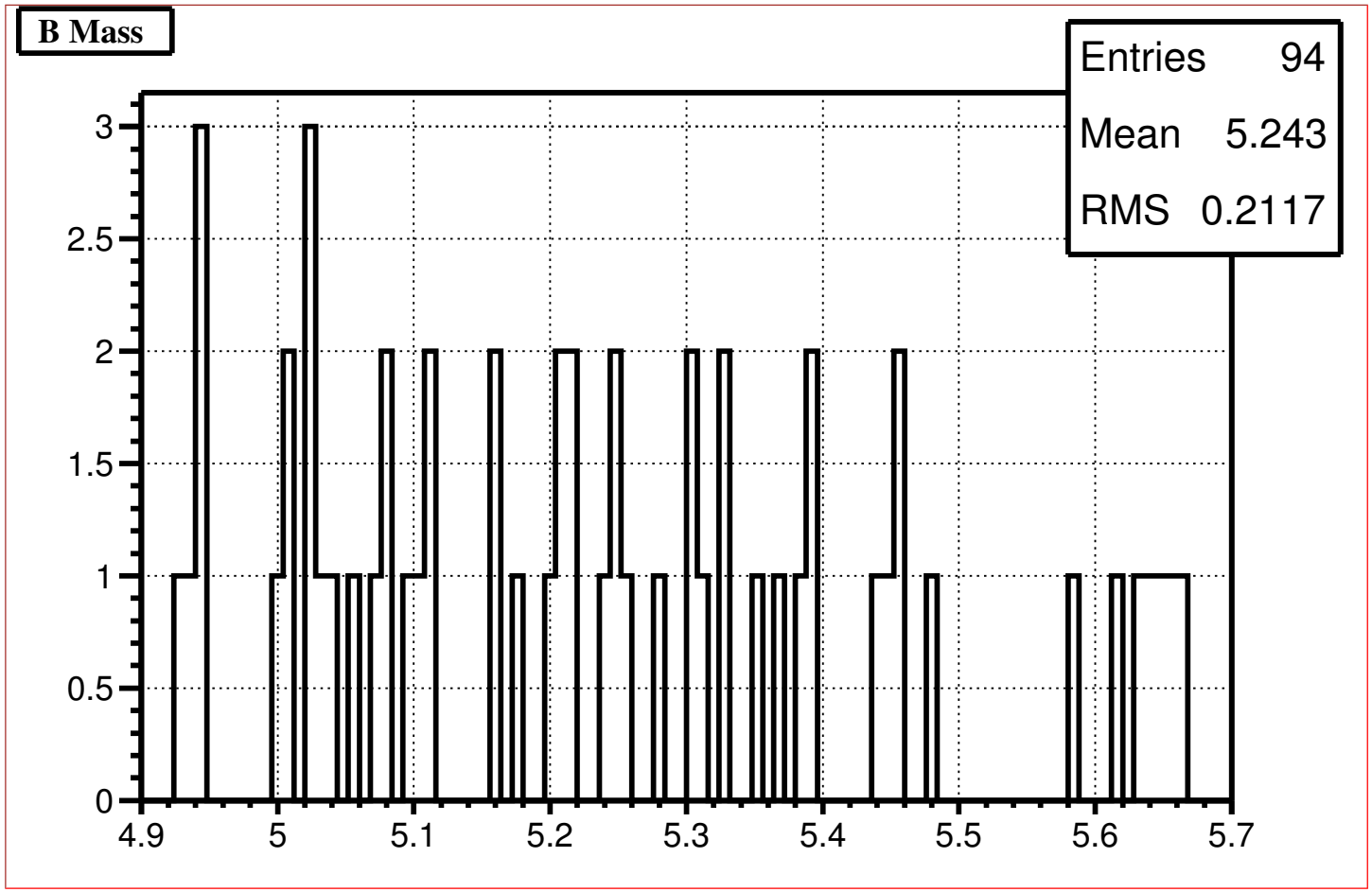
Signal MC after cuts



Signal MC after cuts matched



Data ~ 0.9 x10^6 events



Broad To do list

- Look at normalization with a resonant dimuon K* mode (J/psi K*)
- Optimize cuts: techniques, blind analysis or not
- Run code over background mc, think about background sources
- Run over inclusive b->mu X mc.