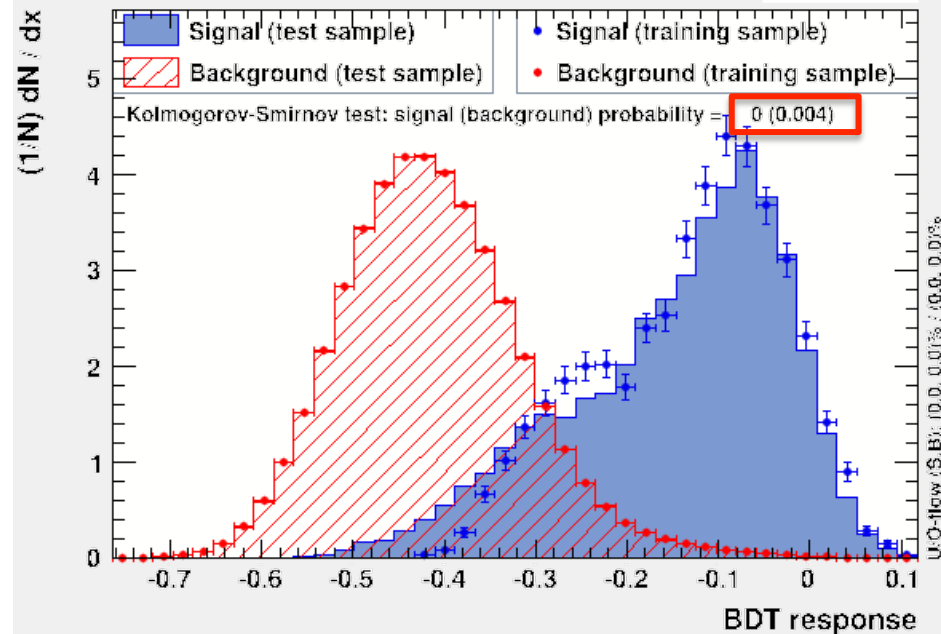
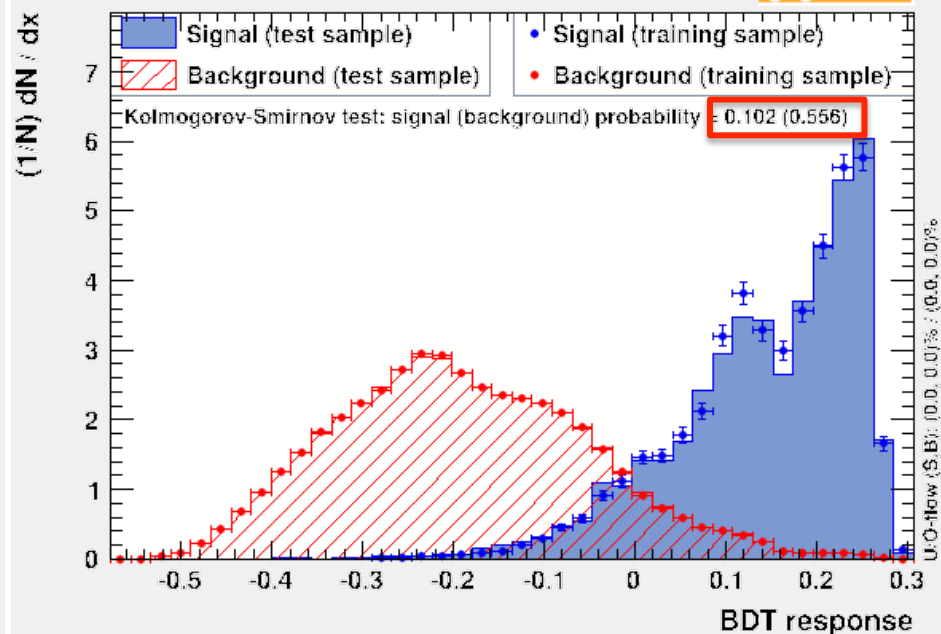


# Some problems with the BDT implementation

TMVA overtraining check for classifier: BDT



TMVA overtraining check for classifier: BDT



Aristeidis pointed out that the agreement between the results of the training were not very good by the K-S test (and visually).

Current status is in the plot on the right. Changed some of the input variables and adjusted settings of the BDT – still working to improve these results.

Exclusive			# of PYTHIA Events	# Correct Thrown	# Signal Combos for BDT	% Accepted (MC Cheat)	Background Combos for BDT			BDT Results		
Run #	Field	EM								Purity		
										0.99	0.90	0.70
9007	1200	1.1	10M	146,300	11,843	8.1	11,930,040		Efficiency (error)	0.634(06)	0.906(03)	0.980(01)
9008	1200	5.5	10M	145,654	9,027	6.2	9,919,656			0.606(07)	0.875(04)	0.967(02)
9001	1350	1.1	10M	145,677	8,998	6.2	8,029,296			0.651(07)	0.938(03)	0.986(01)
9002	1350	5.5	8.5M	127,619	6,828	5.4	6,089,946			0.622(08)	0.910(04)	0.977(02)
9004	1500	1.1	10M	146,300	8,471	5.8	9,146,848			0.632(07)	0.896(04)	0.981(02)
9005	1500	5.5	10M	145,654	7,444	5.1	10,093,500			0.596(08)	0.867(05)	0.967(02)

250k Background combos for training, 2M for testing

Exclusive			# Correct Thrown	Number of Signal combos passing BDT Cut at given purity		
Run #	Field	EM		0.99	0.90	0.70
9007	1200	1.1	146,300	7,508	10,730	11,606
9008	1200	5.5	145,654	5,470	7,899	8,729
9001	1350	1.1	145,677	5,858	8,440	8,872
9002	1350	5.5	127,619	4,247	6,213	6,671
9004	1500	1.1	146,300	5,354	7,590	8,310
9005	1500	5.5	145,654	4,437	6,454	7,198

Exclusive			# Correct Thrown	Percentage of Thrown events passing BDT Cut at given purity		
Run #	Field	EM		0.99	0.90	0.70
9007	1200	1.1	146,300	5.1	7.3	7.9
9008	1200	5.5	145,654	3.8	5.4	6.0
9001	1350	1.1	145,677	4.0	5.8	6.1
9002	1350	5.5	127,619	3.3	4.9	5.2
9004	1500	1.1	146,300	3.7	5.2	5.7
9005	1500	5.5	145,654	3.0	4.4	4.9