

VXDTF1 tests

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- high computing time for the VXDTF in high multiplicity events
- Layer 3 highest occupancy in SVD
- try to do tracking only with layers 4,5,6
- use different amount of background

- trained sector maps with only layers 4,5,6
- used Jakob's script for the training
- use the TFAnaliser to get efficiency estimates:
 - all tracks
 - clean tracks: at least 70% of the hits correctly assigned to the track candidate
 - perfect tracks: all hits correctly assigned
 - ghost: less than 70% of the hits correctly assigned to the track candidate
- 2000 events from evtgen + particle gun
- use all bkg samples with different magnitude (KEK: 12th campaign, 1 ms equivalent, basf2 version rev. 24370)

tracking efficiencies all SVD layers

background	efficiencies [%]	time per event [<i>ms</i>]
	all / perfect / clean / ghost	
0 x bkg	92.4/70.6/18.2/5.4	36.9 ± 47.7
1 x bkg	90.1/67.7/18.2/6.5	118.6 ± 334.3
2 x bkg	87.7/64.3/19.2/9.2	262.0 ± 355.9
3 x bkg	81.6/58.1/19.6/15.3	463.1 ± 616.4

tracking efficiency SVD layers 4,5,6 only

background	efficiencies [%]	time per event [<i>ms</i>]
	all / perfect / clean / ghost	
0 x bkg	87.0/1.7/83.0/4.6	17.8 ± 11.9
1 x bkg	76.3/1.4/70.7/5.2	47.7 ± 62.9
2 x bkg	74.0/1.3/68.4/7.1	97.6 ± 86.4
3 x bkg	71.8/1.3/65.9/11.1	183.0 ± 187.0

Note: by definition 3-layer tracking should have no perfect tracks

some not understood things

- the efficiencies dont add up (bug!?): all \neq perfect + clean + ghost
- why large efficiency drop for the 3-layer tracking in case of bkg?
- why there are perfect tracks for the 3 layer tracking? (L3 hit inefficiency, K_s ??)
- computation time improvement but not as good as hoped

- single μ^\pm track per event from particle gun
- $15 \leq \theta \leq 152$ deg, $0 \leq \phi \leq 360$ deg,
 $0.5 \leq p_t \leq 2.5$ GeV
- tracking on SVD only
- no bkg, no hit filtering except Slope in RZ plane

tracking efficiency SVD only

overlap algorithm	efficiencies [%]			
	all	perfect	clean	ghost
none	99.7	93.4	5.8	0.7
hopfield	99.7	89.1	9.5	0.6
greedy	99.8	93.6	5.7	0.5

- hopfield is the default
- seems not to work as expected