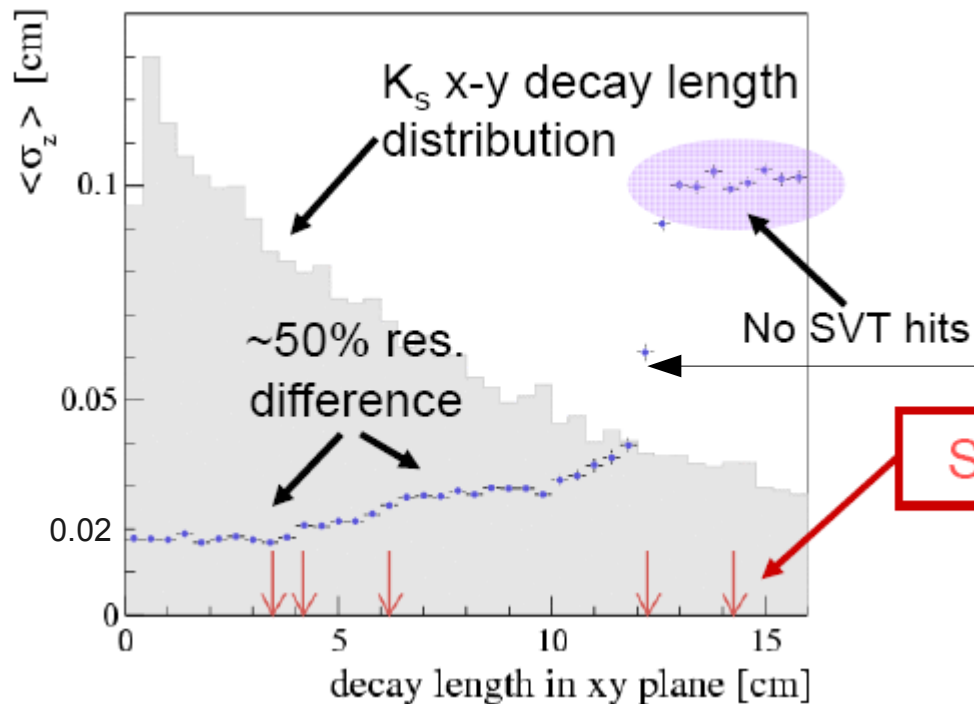


# $B \rightarrow K_S \pi^0(\gamma)$ & SVT outer radius : a brief study

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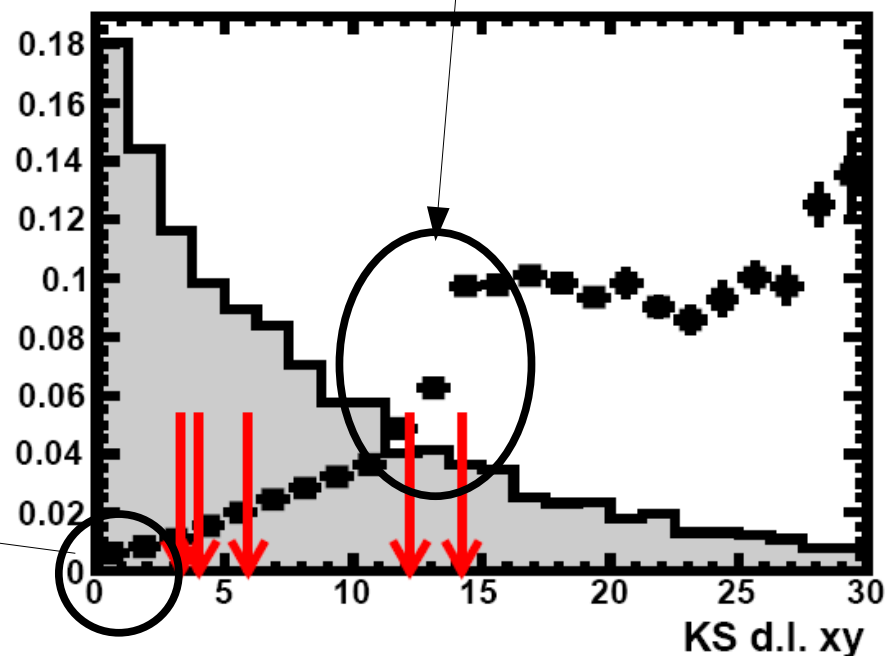
# Resolution vs f.t. In BaBar



Resolution depends on number of SVT layers traversed by pions from  $K_s$  ...

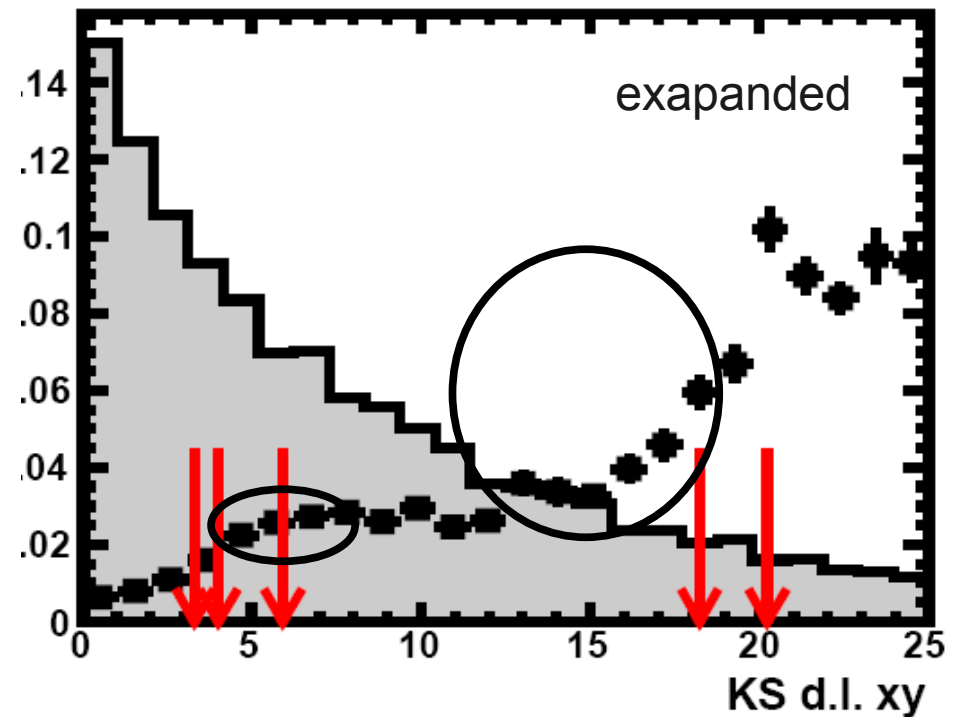
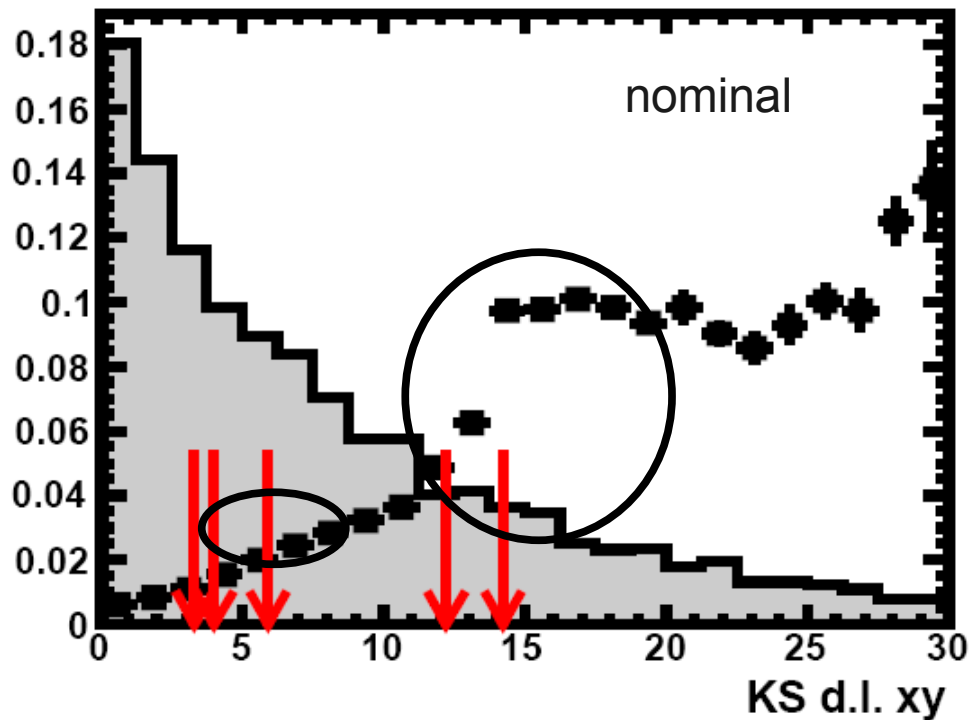
Pattern Recognition: Tracks with only one SVT hit where not found in BaBar

- Better resolution close to the IP because of layer0



# Filling the gap between SVT and DCH

- Expand L4 and L5 up to maximum allowed:
  - Layer 4: 12.2->17.4
  - Layer 5: 14.2->20.2 (DCH S.T. is at 21.3cm)



# Error on $\Delta t$

- Class I & II: used for dt fit
- Class I & IV

Nominal

63%

37%

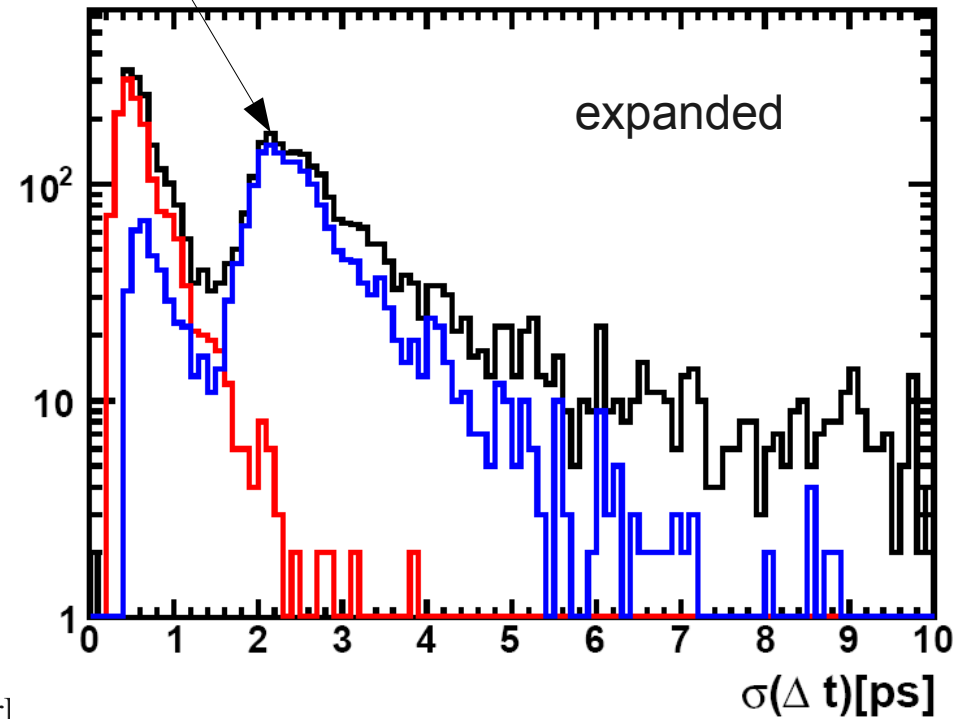
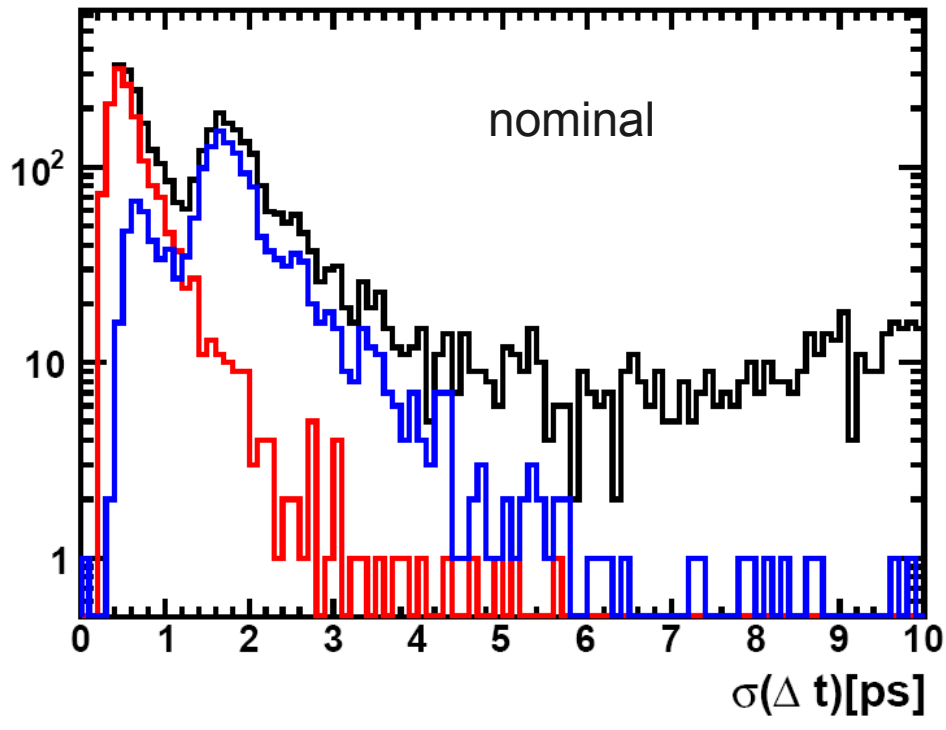
expanded

73%

27%

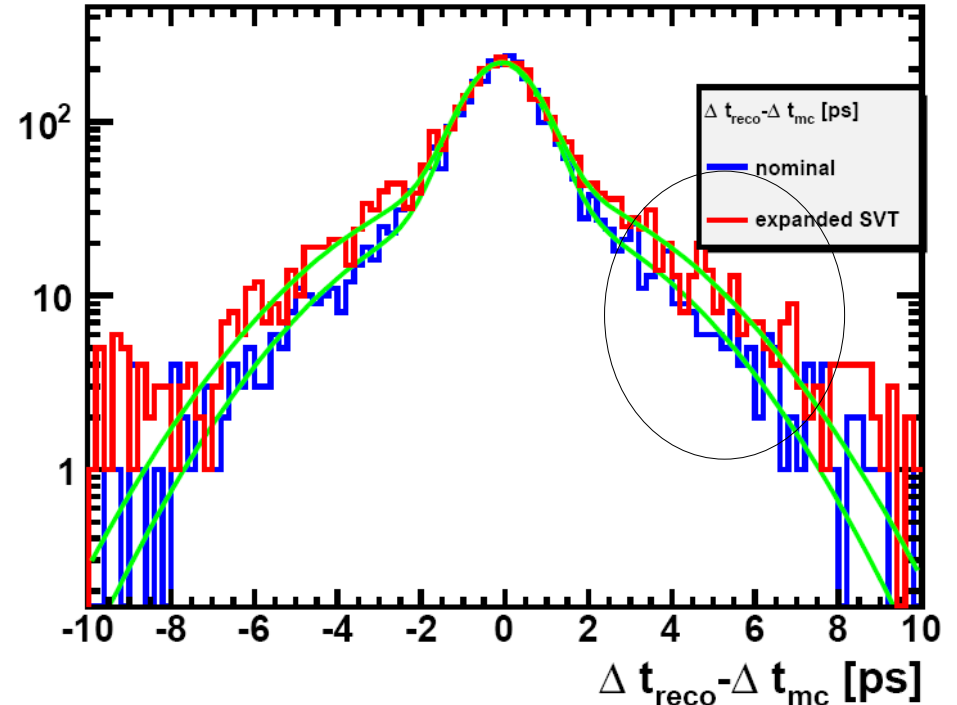
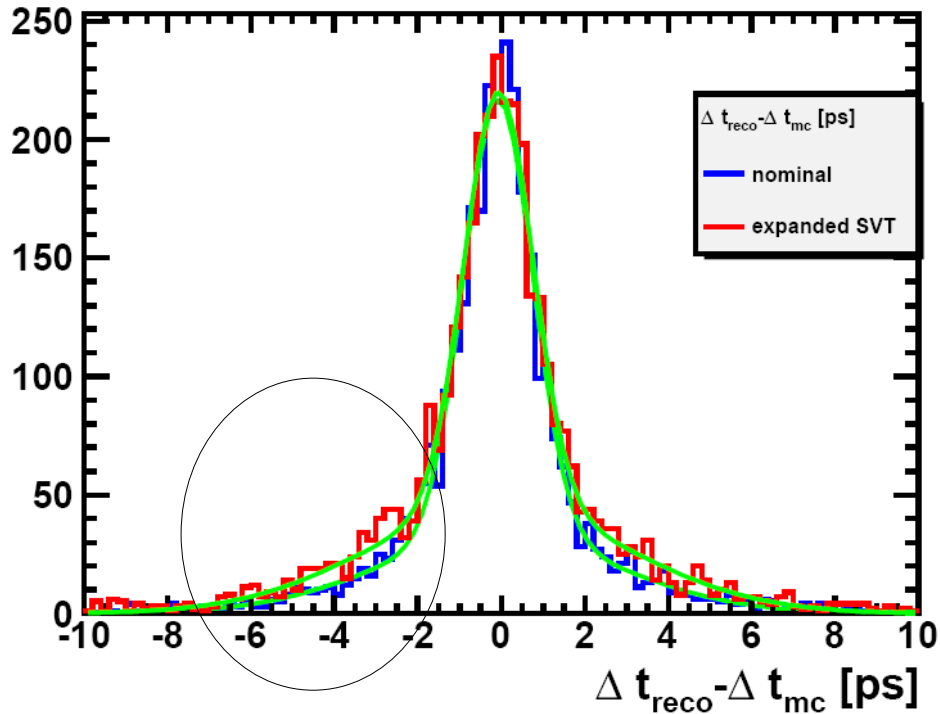
Same as in BaBar

Class II events have bigger error



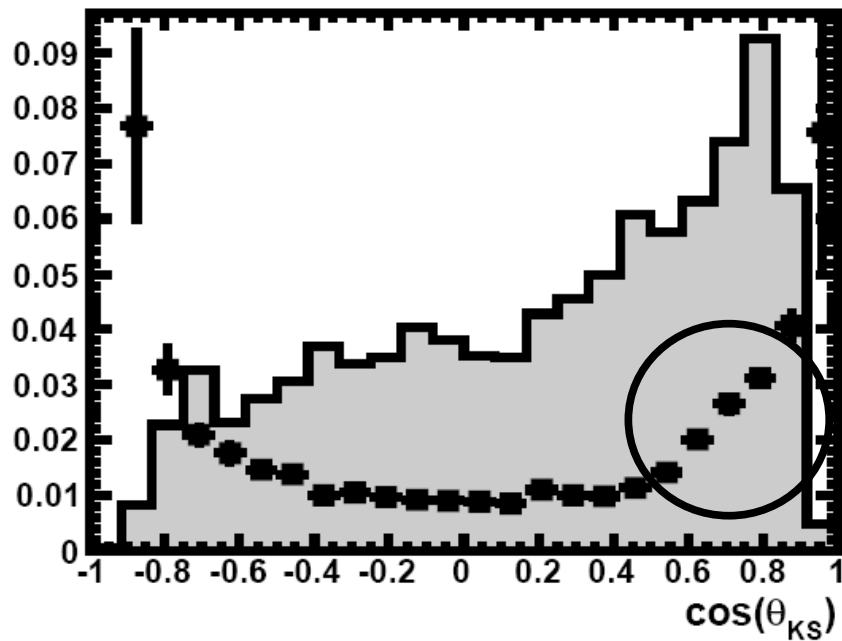
Superl

# $\Delta t$ resolution

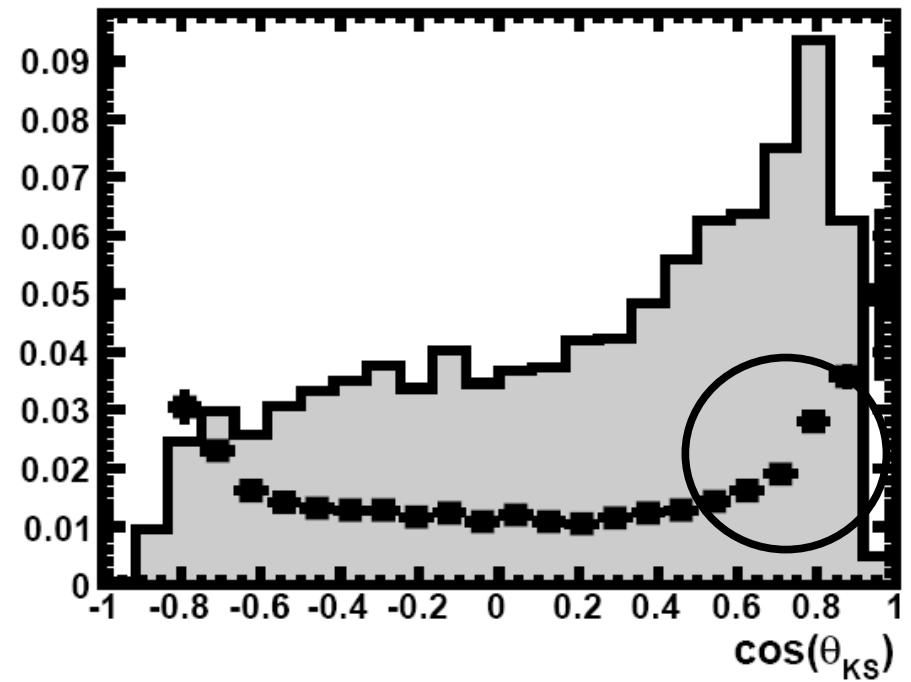


- most of the additional events are populating mainly the tails of the resolution

# Angular dependence



improvement in the forward region



# Conclusions/Plans

- Brief study of impact of SVT outer radius on benchmark channel  $K_S \pi^0$
- Baseline resolutions as good as BaBar
- Expanded SVT: fraction of usable KS for time dependent study increases
- But additional events have worse resolution than average
- Acceptance in the forw region slightly improves