“Final” conclusions about algs. Samples used:

- 2 B samples (1000 events each)
- One TOF smeared and other no smeared
- ~ 19 reconstructed tracks reaching TOF
- ~ 28 on average MC TOF hits

- 2 MinBias 10 samples (500 events each)
- One TOF smeared and other no smeared
- ~ 47 reconstructed tracks reaching TOF
- ~ 78 on average MC TOF hits

2 reconstruction paths:

- Using COT reconstructed tracks, do track-hit associa.
- We depend on COT performance: z & φ
- No perfect reconstructed track – MC track matching

- Using MC tracks from final particles and their helical trajectory
- Do track-hit association from exact z & φ
- Perfect “a posteriori” MC track-MC hit correspondence

TL – TR algorithm performance

#σ	1	**2**	3
COT-hit assoc %	85/68	89/**87**	90/90
OK assoc hits %	98	**98**	97
MC-hit assoc %	83/65	85/84	87/87
OK assoc hits %	100	99	99
COT-hit assoc %	67/51	73/**69**	76/74
OK assoc hits %	98	**97**	97
MC-hit assoc %	73/57	76/74	77/77
OK assoc hits %	99	99	98

Closest track alg. performance

Δ Z (cm)	20	**30**	40
COT-hit assoc %	91	**90**	89
OK assoc hits %	95	**96**	96
MC-hit assoc %	98	98	97
OK assoc hits %	97	97	97.5
COT-hit assoc %	90	**88**	86
OK assoc hits %	92	**92**	92
MC-hit assoc %	97	96	94
OK assoc hits %	93	94	94

Final comparison:

Alg.	TL-TR	Closest	Hybrid
COT-hit assoc %	89/87	**90**	94/93
OK assoc hits %	98	**96**	95
MC-hit assoc %	85/84	98	91/90
OK assoc hits %	99	97	96
COT-hit assoc %	73/69	**88**	89/88
OK assoc hits %	97	**92**	91
MC-hit assoc %	76/74	96	92/90
OK assoc hits %	99	94	93

Conclusions:

- MC path results compatible to CDF4696
- Some points to be understood, work not finished
- TL-TR offers poor Track-hit assoc. efficiency but low fraction of tracks with misassigned hits -> good timing resolution
- We’d propose Hybrid as the default algorithm