



# B-meson measurement via Secondary $J/\psi$ Production

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# Status



	Direct J/ψ (ORCA)	Direct J/ψ (Dongho's)	Secondary J/ψ (Ji Hyun's)	CSA07BtoJpsi
Used Path	-	{ l1muonreco & l2muonreco }		
Strategy1(L1)	0.7 %	0.90 %	1.72 %	3.07 %
Strategy2(L2)	0.76 %	0.94 %	1.80 %	3.44 %
Strategy3	0.52%	0.58 %	1.20 %	2.39 %
Strategy4	0.97%	1.25 %	2.31 %	4.12 %

- ORCA and Dong Ho's study says L1 & L2 trigger efficiency of primary J/ψ was about 1 %. But trigger efficiency of Secondary J/ψ was higher and has sample dependency.
  - My secondary J/ψ sample : 1 ~ 2 % / CSA07 BtoJpsi sample : 3 ~ 4 %
- Why are they different?
  - Dong Ho's sample was obtained from HI Software in Twiki. It is well-matched to Yellow Report.
  - By discussions with Prashant, we concluded discrepancy of efficiencies could be fixed at generator level. In his opinion, CSA07 file was not crafted carefully. I agree with him, so, I will generate new refined sample and try triggering again with his help.



# Plans



- Obtaining new L1/L2 trigger efficiencies after generating new secondary  $J/\Psi$  sample.
  - Still need more study of generator level
- In parallel, trying to check l1 & l2 muons are well-matched to MC muons using SimTracks.
  - Muon HLT people gave me some hints,
    - ✓ [SimTracker/TrackAssociation/src/TrackAssociatorByPosition.cc](#)
    - ✓ [SimMuon/MCTruth/src/MuonAssociatorByHits.cc](#)