Pre-selection study (4)

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- Current selection criteria
  - good charged track selection
    Pt>=0.1GeV/c , |dr|<1cm, |dz|<5cm
  - good ECL cluster selection
    E(cluster) > 0.1GeV

  2 <= # of good track <= 8
  Σ Pcm < 10 GeV/c (mass is pion mass)
  Σ E(ECL good cluster) < 10 GeV
  Pt > 0.5 GeV/c for at least 1 track
  Event vertex |r|<0.5cm, |z|<3cm
  for 2 track events
    Σ Pcm < 9 GeV/c
    Σ E(ECL) < 9 GeV
    $5 < \theta_{Pmiss} < 175$ degree

- Pre-selection efficiency

	efficiency	generated cross section	observed cross section
tau pair	72.7%	0.91nb	0.66nb (6.3%)
mu mu	5.45	0.94	0.05 (0.5%)
bhabha	0.45	1249	5.62 (53.4%)
eeee	1.68	40.88	0.68 (6.4%)
eemumu	2.26	18.80	0.42 (4.0%)
bb	57.3	1.05	0.60 (5.7%)
cont.	73.5	3.39	2.49 (23.7%)
			10.52nb(100%)

- Current criteria are not so good.
  - Tau skimmed file by DST group is very huge.
  - Huge data of other modes are remaining.
    bhabha, continuum …
    beam background events
  → need other selection cuts

- additional cuts

  for beam BG rejection
    box cut of Erec x Ptmax
      Erec<3 GeV and Ptmax<0.8 GeV/c

    Erec = Sum of Pcm(charged tracks)
      + Sum of Egamma
    Ptmax : maximum Pt in charged tracks

  for radiative bhabha rejection
    Etot < 9 GeV for 2-4 charged