A. Nikitenko / S. Kunori

Where ECAL SR may affect JETMET performance

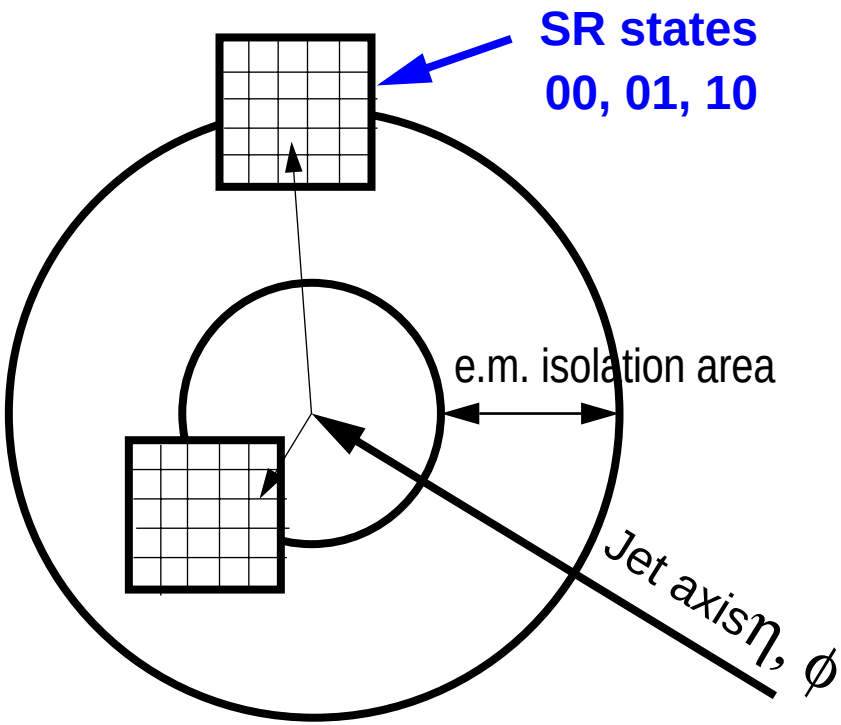
cases to be studied :

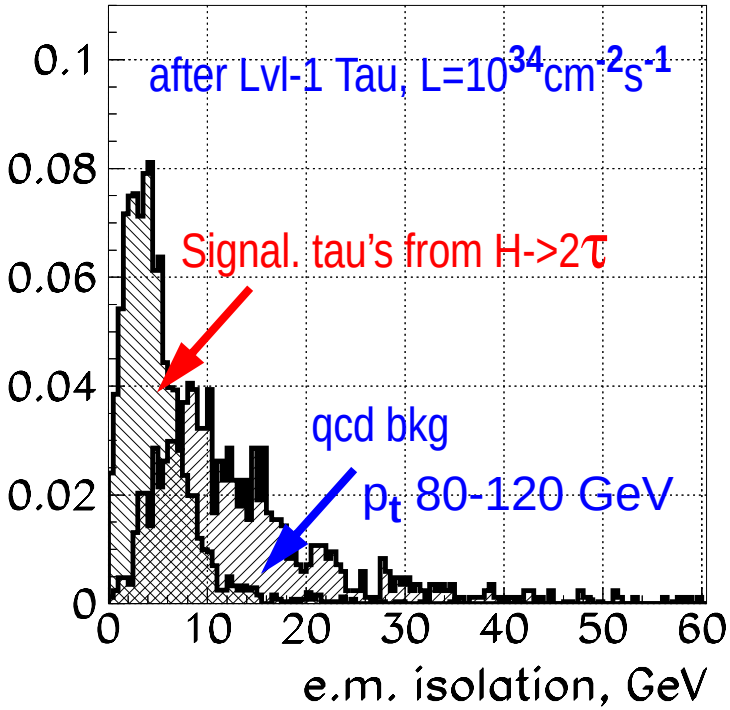
- Tau ID at Lvl-2 and off-line
- MET measurement
- Jet measurement

hcal meeting. 13-15 June 01. CERN

JETMET & ECAL SR (I) - Lvl-2 Tau trigger, off-line τ id

e.m. isolation $C=\sum E_T^{em}(0.13<R_{cryst}<0.40)$

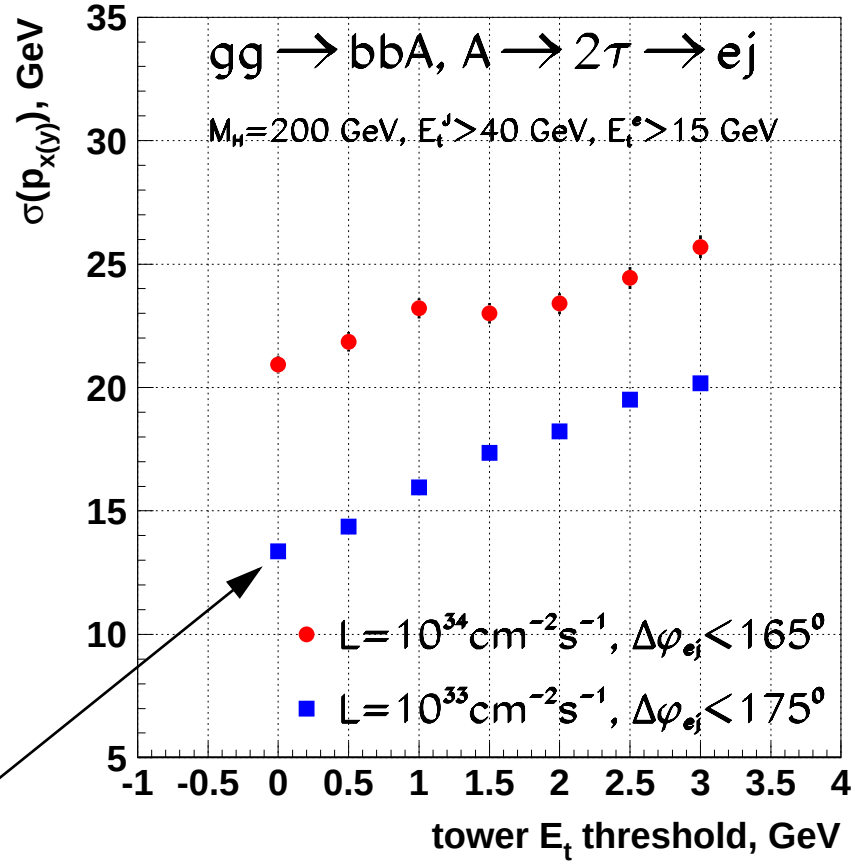




1. **find jet (E_t, η, ϕ) with ecal+hcal towers as input**
2. **loop over towers in jet; access crystals in ecal part of tower; calculate C**

how SR may affect τ selection ?

JETMET & ECAL SR (II) - MET calculation



Cufoff on digi : 2 σ noise in ecal; 300 MeV, > 2σ noise in hcal (noise 43, 88, 142 MeV)

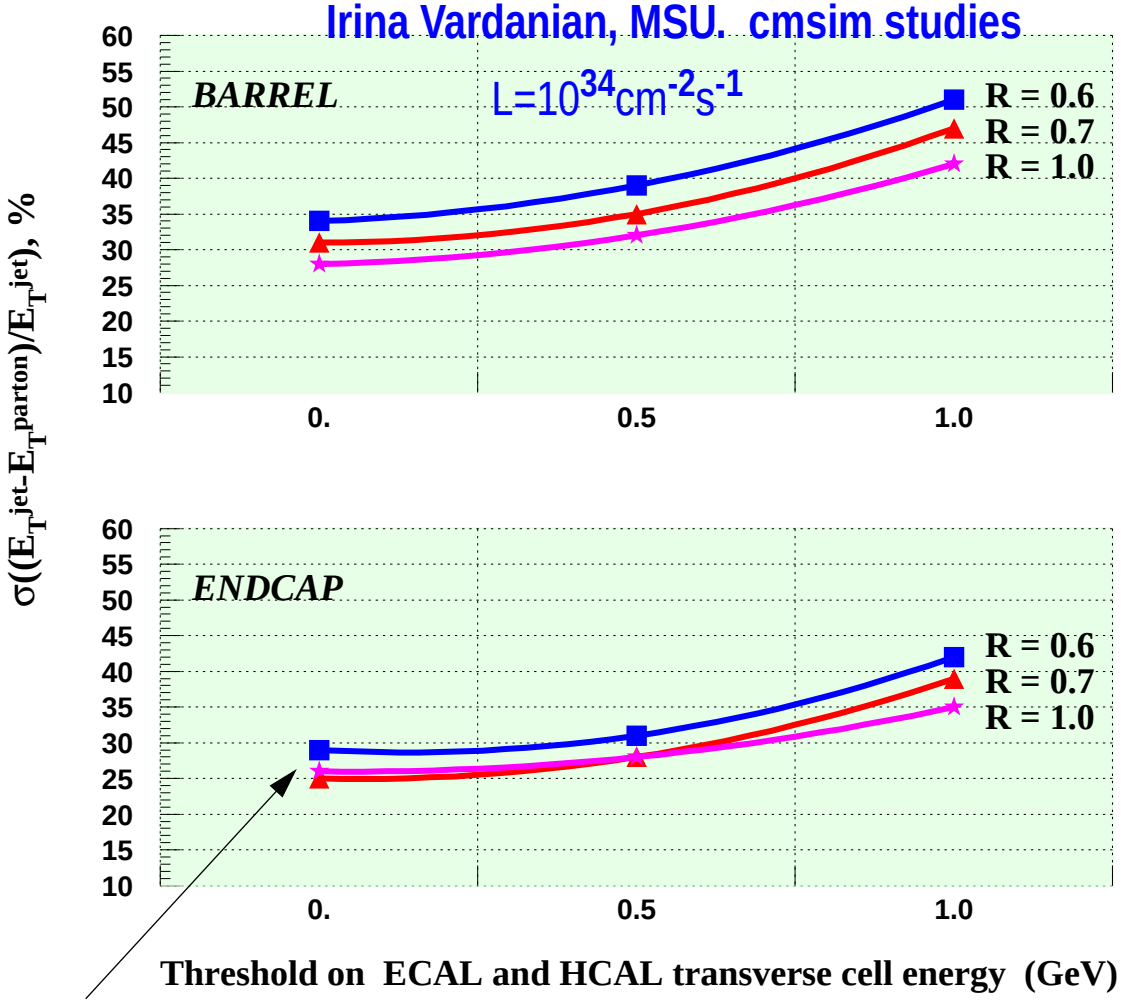
ATLAS without pileup : $\sigma(p_{x(y)})$=5 GeV with 1.5 σ noise cutoff on digi, with 2.5 σ ~ 7 GeV

how ECAL SR may affect MET (scale, resolution, direction) ?

JETMET & ECAL SR (III) - Jet reconstruction

soft jet (~20 GeV) resolution v.s. cutoff on ecal & hcal tower E_t .

Irina Vardanian, MSU. cmsim studies



jet reco algorithm with pile up substruction

very important for mini jet veto in VBF Higgs search

Z S : 1 σ noise in ECAL. noise E_t=30 MeV in EB, E=150 GeV in EE