A. Nikitenko jetmet meeting 30 Sept 01

Update on tau's for $2x10^{33}cm^{-2}s^{-1}$

- Lvl-1 efficiency for h->2tau->2j with Trigger TDR table for $L=10^{33}cm^{-2}s^{-1}$ and Andey's Lvl-1 Jet corrections for $L=10^{34}cm^{-2}s^{-1}$.

- Performance of Lvl-2 calo and Lvl-3 Pxl triggers for h->2tau->2j and qcd bin 80-120 (most dangerous bin)

Lvl-1. to be checked with Pamela

Lvl-1 efficiency for gg->bbH, H->2tau->2j with Trigger TDR table for $L=10^{33}cm^{-2}s^{-1}$ and Andrey's Jet corrections for $L=10^{34}cm^{-2}s^{-1}$

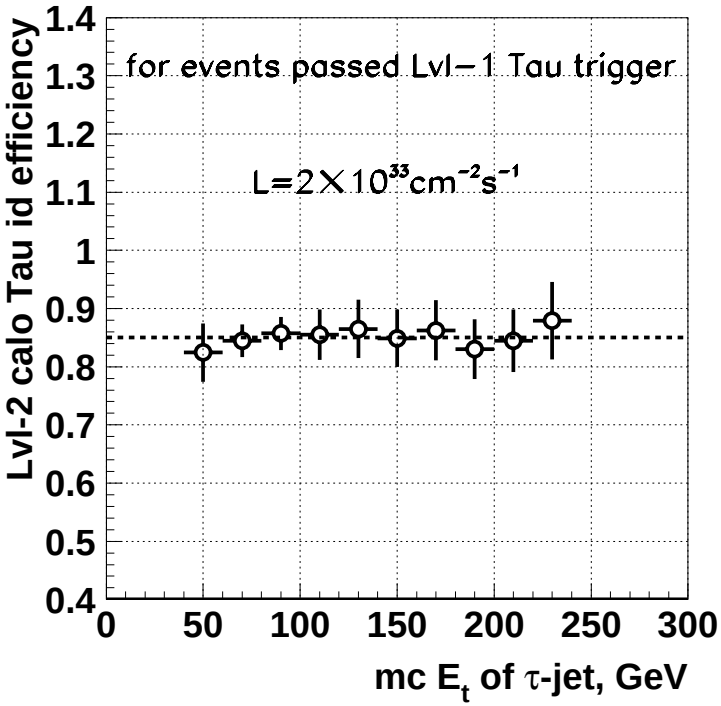
Kinem. preselections: $p_t^{mc\ \tau\ jet}>45$ GeV, $\eta^{mc\ \tau\ jet} < 2.4$

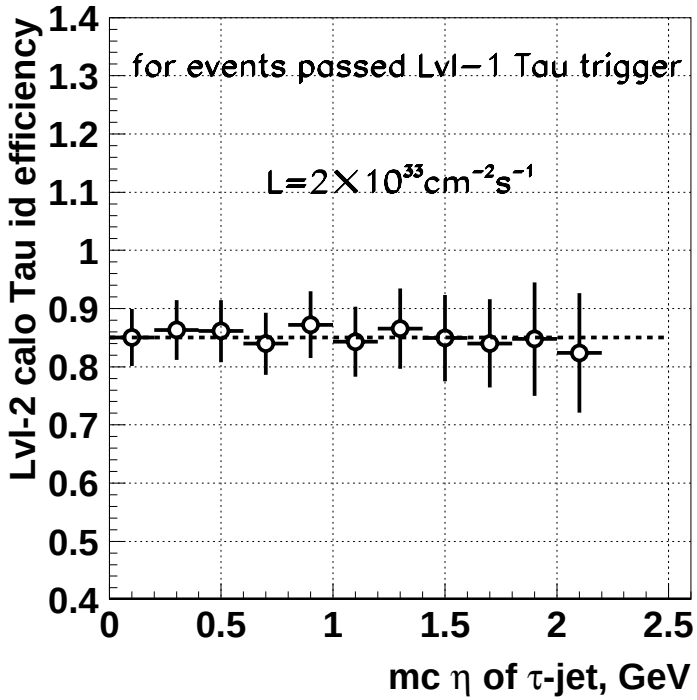
Trigger tags used to get new Lvl-1 Tau pattern trigger :

Dasu13August2001 Trigger/L1CaloTrigger
Dasu18April2001 Data/TriggerData/L1CaloTrigger

Higgs Mass	Lvl-1 efficiency	first Lvl-1 Tau matches MC tau	second Lvl-1 Tau matches MC Tau
	T || 2 Tau || J || 2 J		
200 GeV	0.92	0.986	0.958
500 GeV	0.99	0.982	0.924

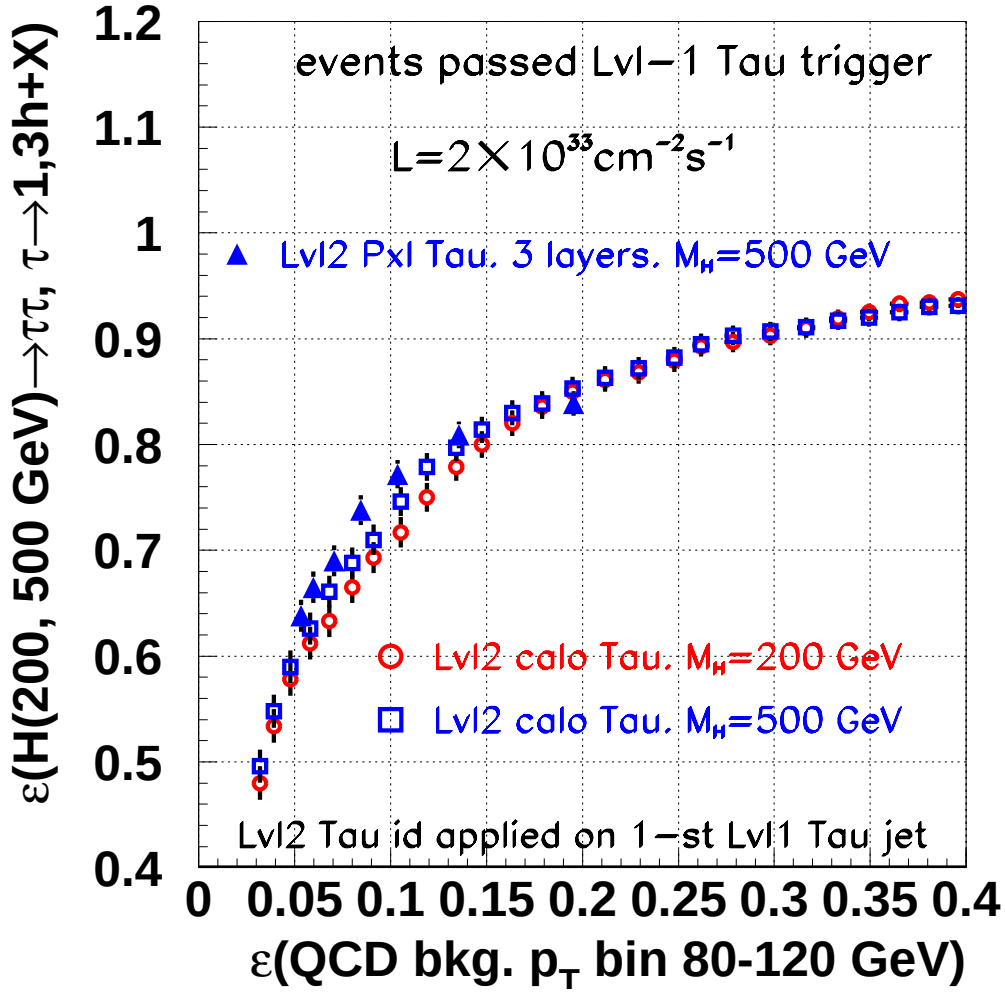
Lvl-2 Calo. Signal eff. vs $E_t^{\tau\text{-jet}}$, $\eta^{\tau\text{-jet}}$





As for high lumi efficiency doesn't depend on E_t and η of tau-jet !

Lvl-2. Signal. vs bkg. Calo vs Pixels



for C_{em}=3.8 GeV. $\varepsilon_{sign}^{l2\ calo}$=0.85, $\varepsilon_{bkg}^{l2\ calo}$ = 0.195

Lvl-1,2 Trigger efficiency for 3 prong τ's

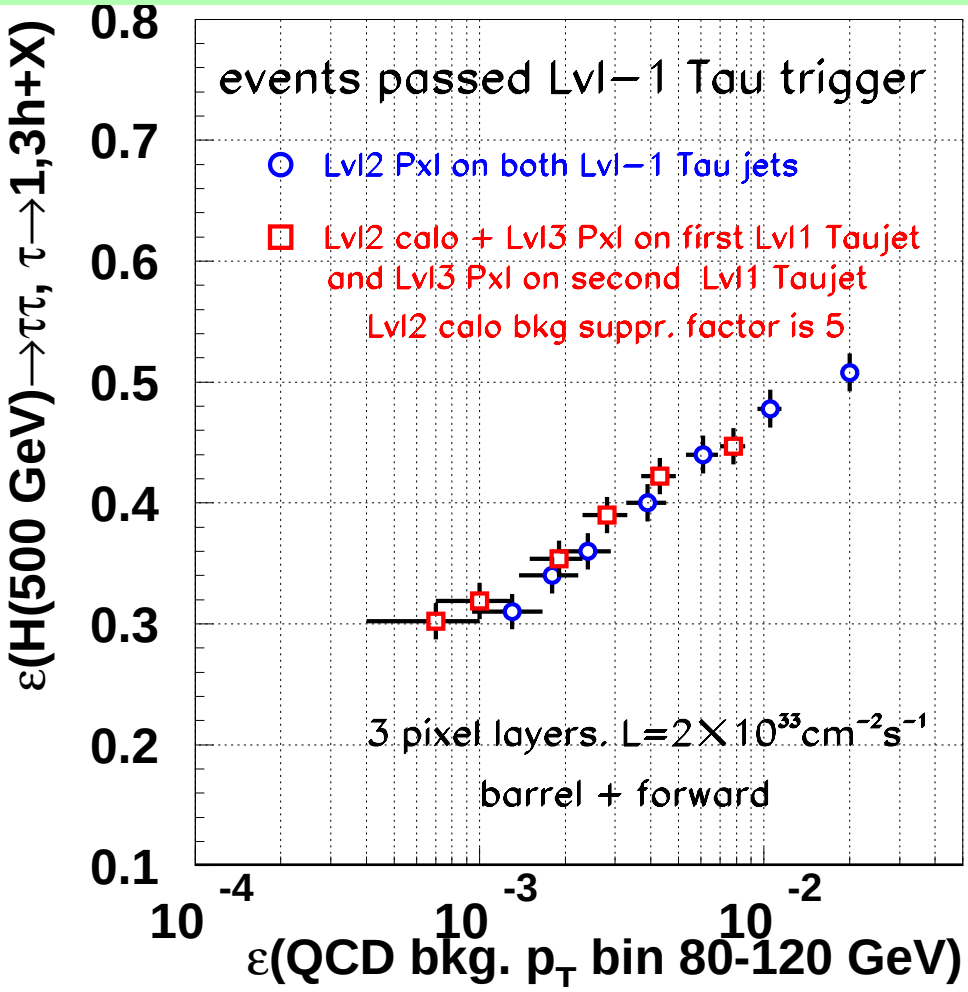
We want to use 3 prong tau's in off-line analysis

Fraction of 1 & 3 and 3 & 3 prong tau decays in H->2τ -> 2j at different trigger levels

Higgs mass	before triggers		Lvl-1 Tau (T || 2T)		Lvl-2 Tau Calo	
	1 & 3	3 & 3	1 & 3	3 & 3	1 & 3	3 & 3
200 GeV	0.399	0.077	0.389	0.067	0.380	0.063
500 GeV	0.357	0.063	0.350	0.062	0.345	0.057

Fraction of 3 prong taus in gg->bbH, H->2τ -> 2j is not changed with the Lvl-1 and Lvl-2 calo trigger selections !

Trigger paths for gg->(bb)H, H->2τ->2j



Selection capability is the same with Lvl-2 calo+Lvl-3 Pxl and with Lvl-2 Pxl only. Who is faster ?