work status

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WWyy bkg samples status

		Generators	Lumi(pb)*xsec(pb^{-1})	needed	currently produced	status
lvjjyy	QCD=2	MadGraph5	20k*0.03=600	100k	100k	done
	QCD=0	MadGraph5	20k*0.001=20	100k	50k	this week
jjjjyy (light jets)		Alpgen2	20k*12=240k	500k	500k	done
lvlvyy		MadGraph5	20k*6e-5=1.2	5k	20k	done

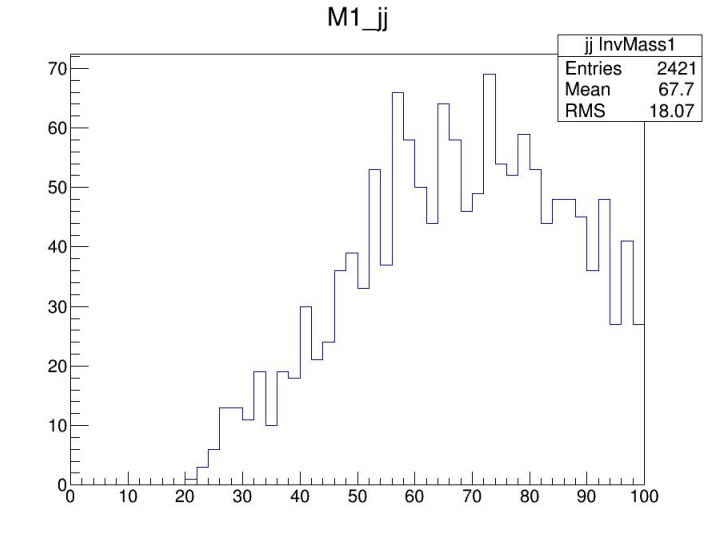
killed many times...

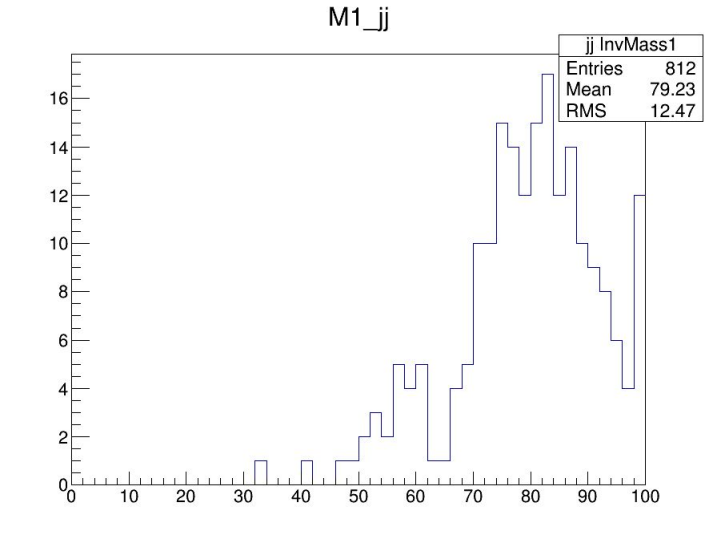
WWWW status

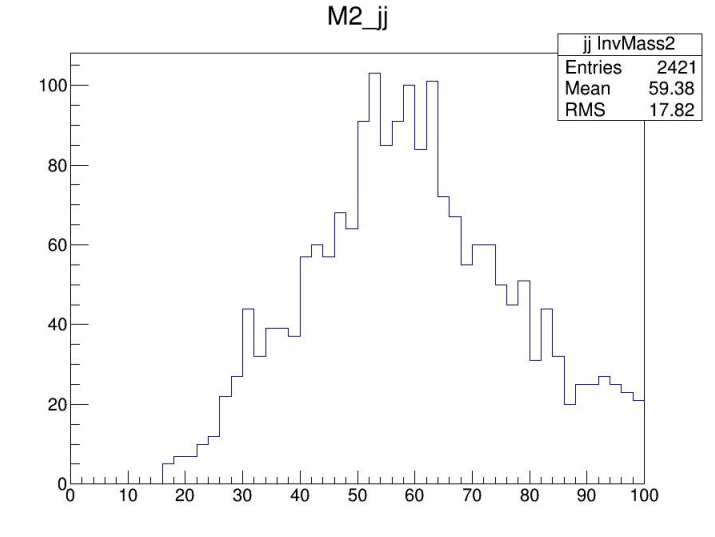
- sig:
  - ›› thanks to Weiming, change to old-version MadGraph-v1.5
  - ›› sig model used: Hheft-300GeV_UFO
  - ›› p p > h2 > h1 h1, h1 h1 > w+ w- w+ w-, w+ > l+ v, w- > j j
- bkg:
  - ›› p p > h h > w+w-w+w-, w+ > l+ v, w- > j j (l = e u)

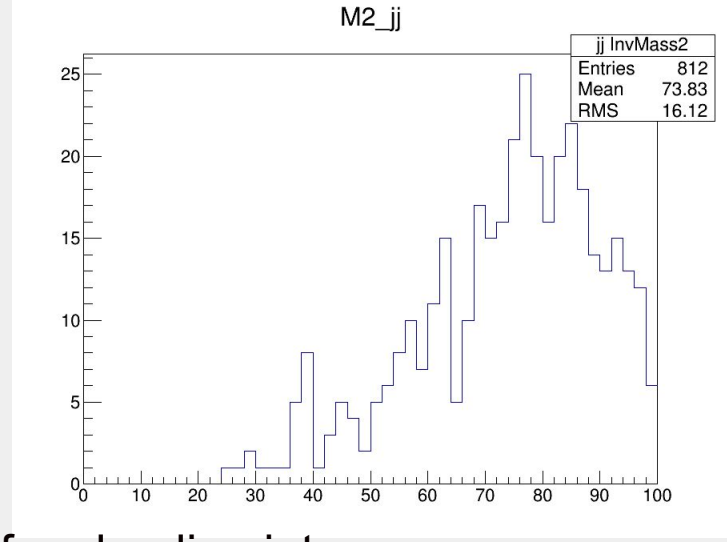
- also want to mention:
  - ›› (HeavyScalar-300)MadGraph5+standalone Pythia8+Delphes3, the problem is due to pythia8, but not yet solved(author did not reply..)

sig vs bkg



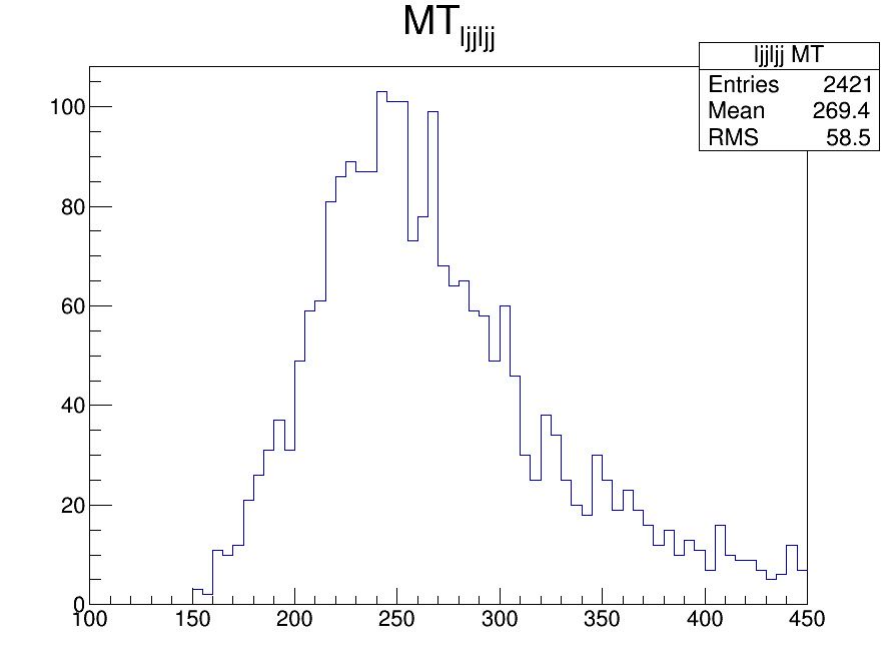


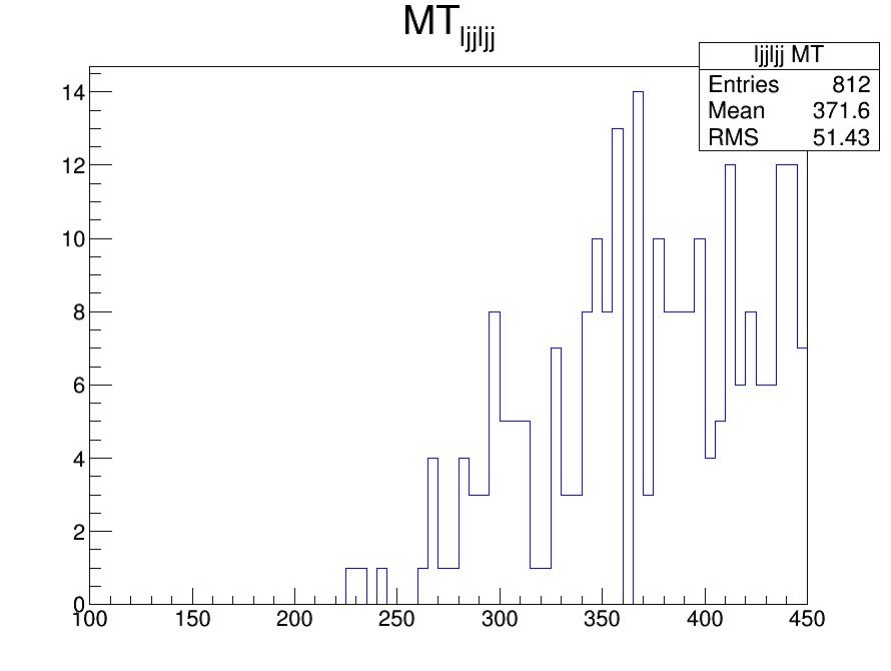




just choose first four leading jets

sig vs bkg





$$MT_{ljjljj} = \sqrt{(E_{T_{l1}} + E_{T_{j1}} + E_{T_{j2}} + E_{T_{l2}} + E_{T_{j3}} + E_{T_{j4}} + MET)^2 - (\vec{p}_{T_{l1}} + \vec{p}_{T_{j1}} + \vec{p}_{T_{j2}} + \vec{p}_{T_{l2}} + \vec{p}_{T_{j3}} + \vec{p}_{T_{j4}} + \vec{p}_{MET})^2}$$

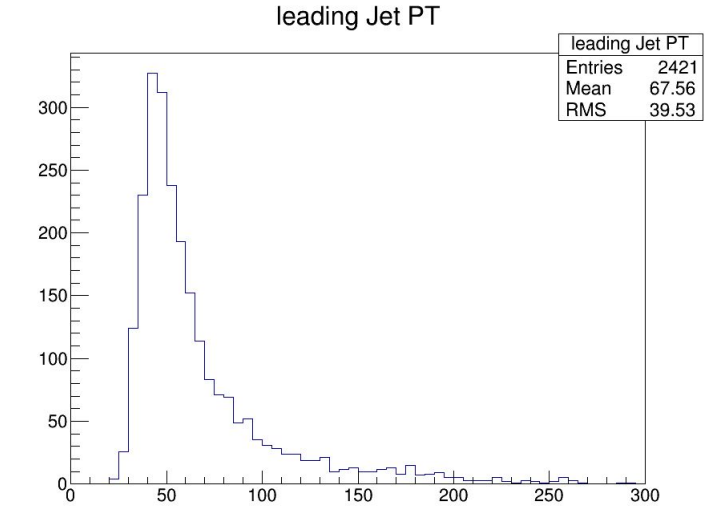
$$MT_{ljjljj} = E_{T_{l1}} + E_{T_{j1}} + E_{T_{j2}} + E_{T_{l2}} + E_{T_{j3}} + E_{T_{j4}} + MET$$

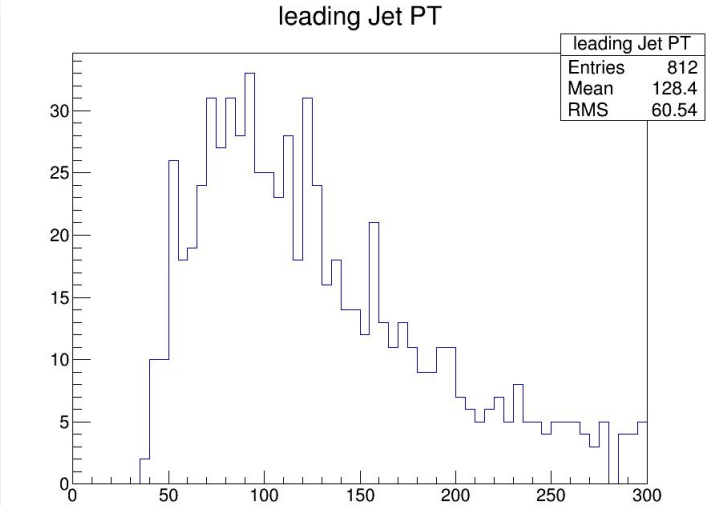
$$E_T^{\ 2} = m^2 + \vec{P}_T^{\ 2}$$

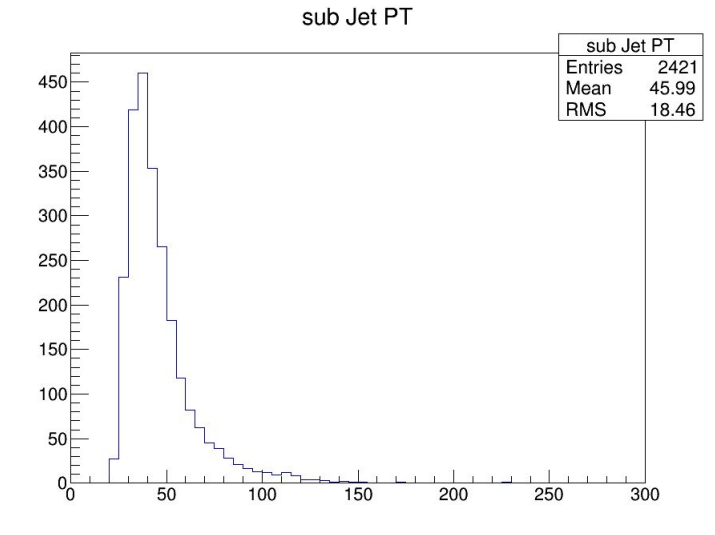
others & summary

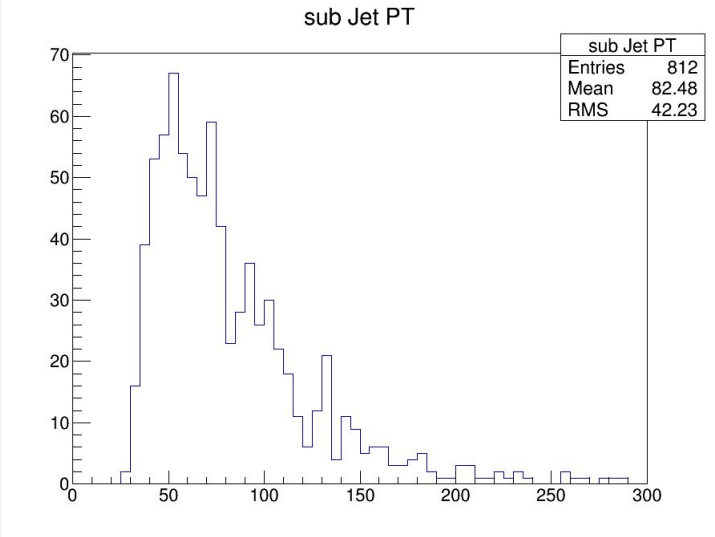
- Qualification task:
  - writing codes to access xAOD within InDetPhyValMonitoring
- Shift, will take my first shift this Wednesday

Backup sig bkg



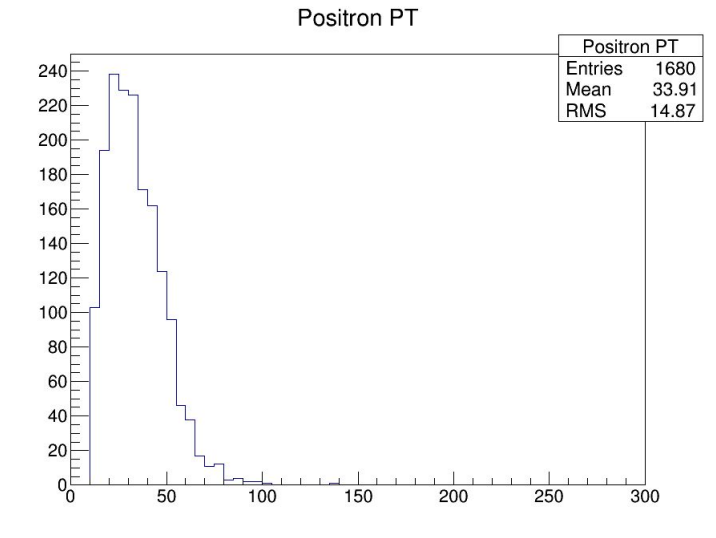


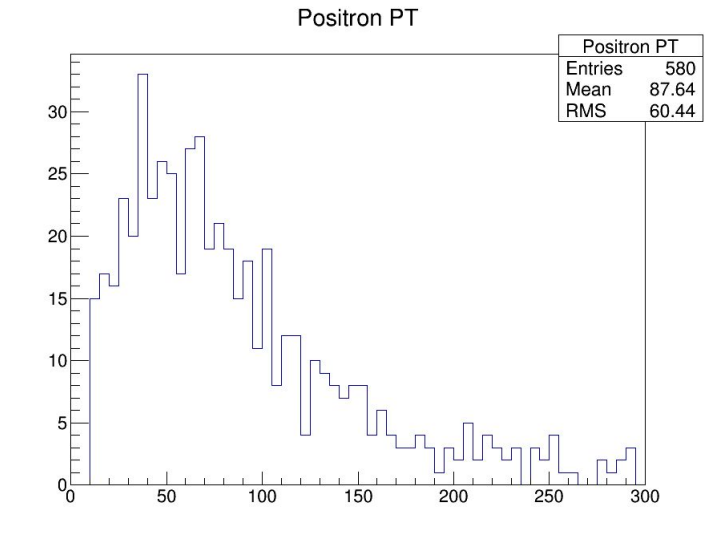


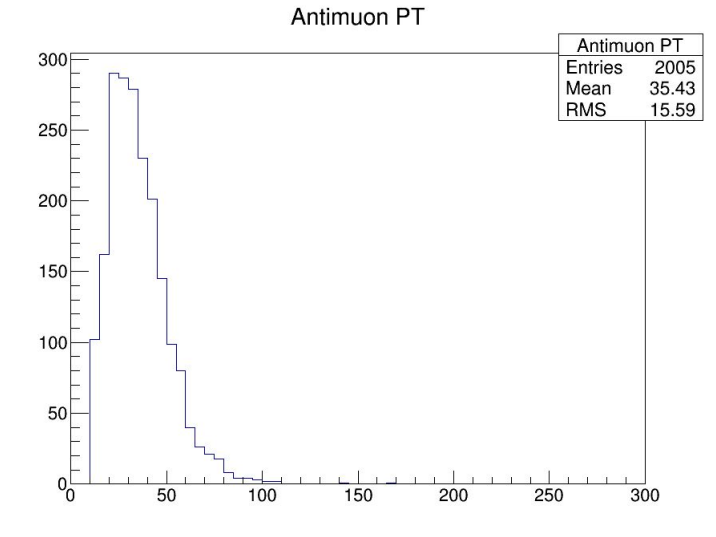


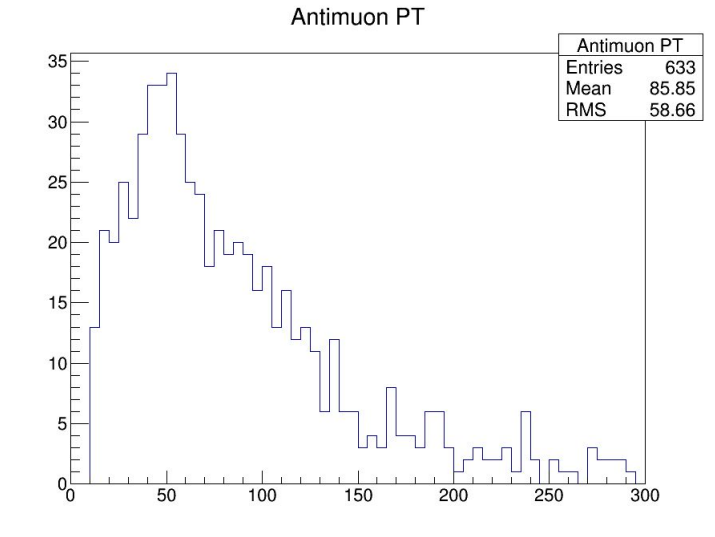
sig

bkg


Positron PT
Positron PT
Entries 1680
Mean 33.91
RMS 14.87


Positron PT
Positron PT
Entries 580
Mean 87.64
RMS 60.44


Antimuon PT
Antimuon PT
Entries 2005
Mean 35.43
RMS 15.59


Antimuon PT
Antimuon PT
Entries 633
Mean 85.85
RMS 58.66