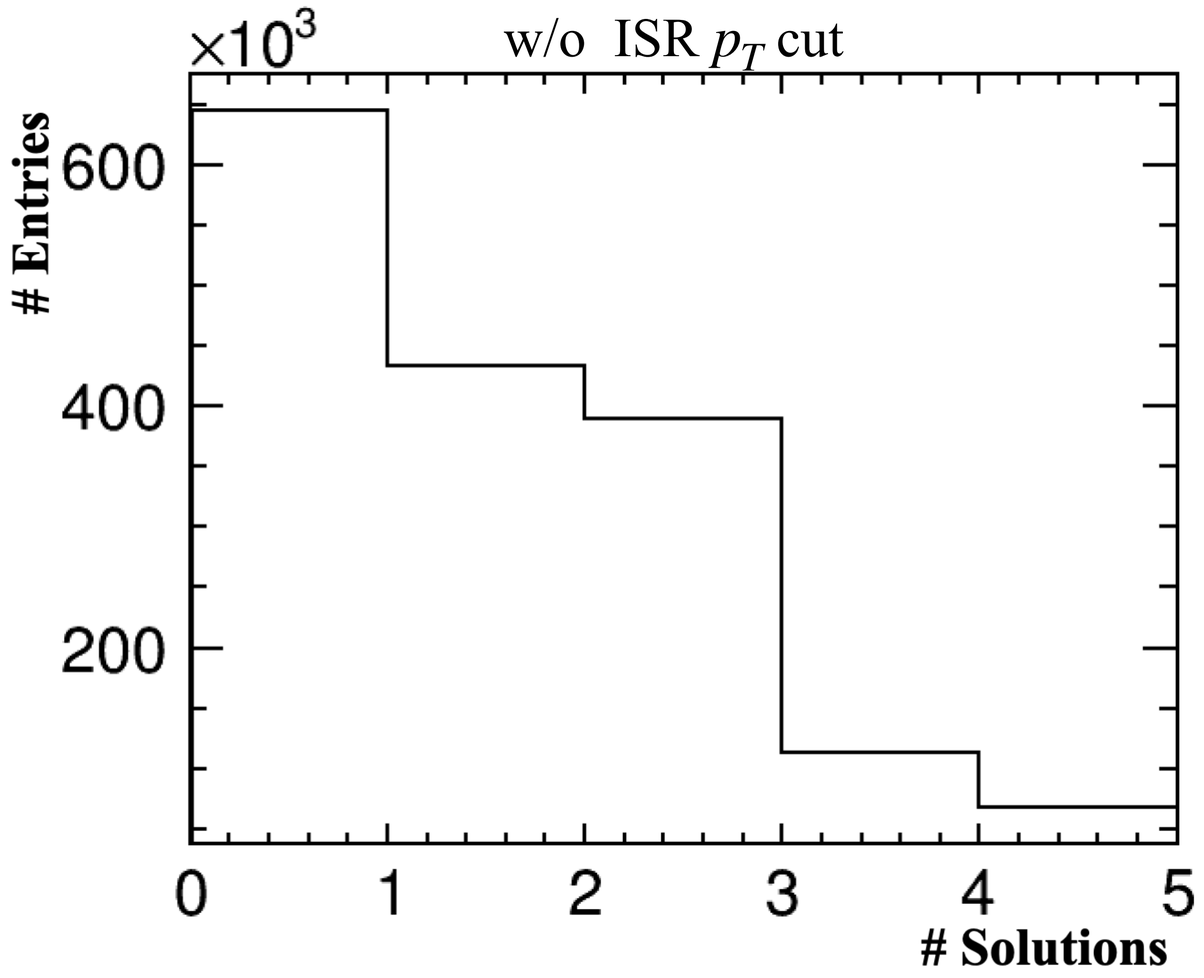
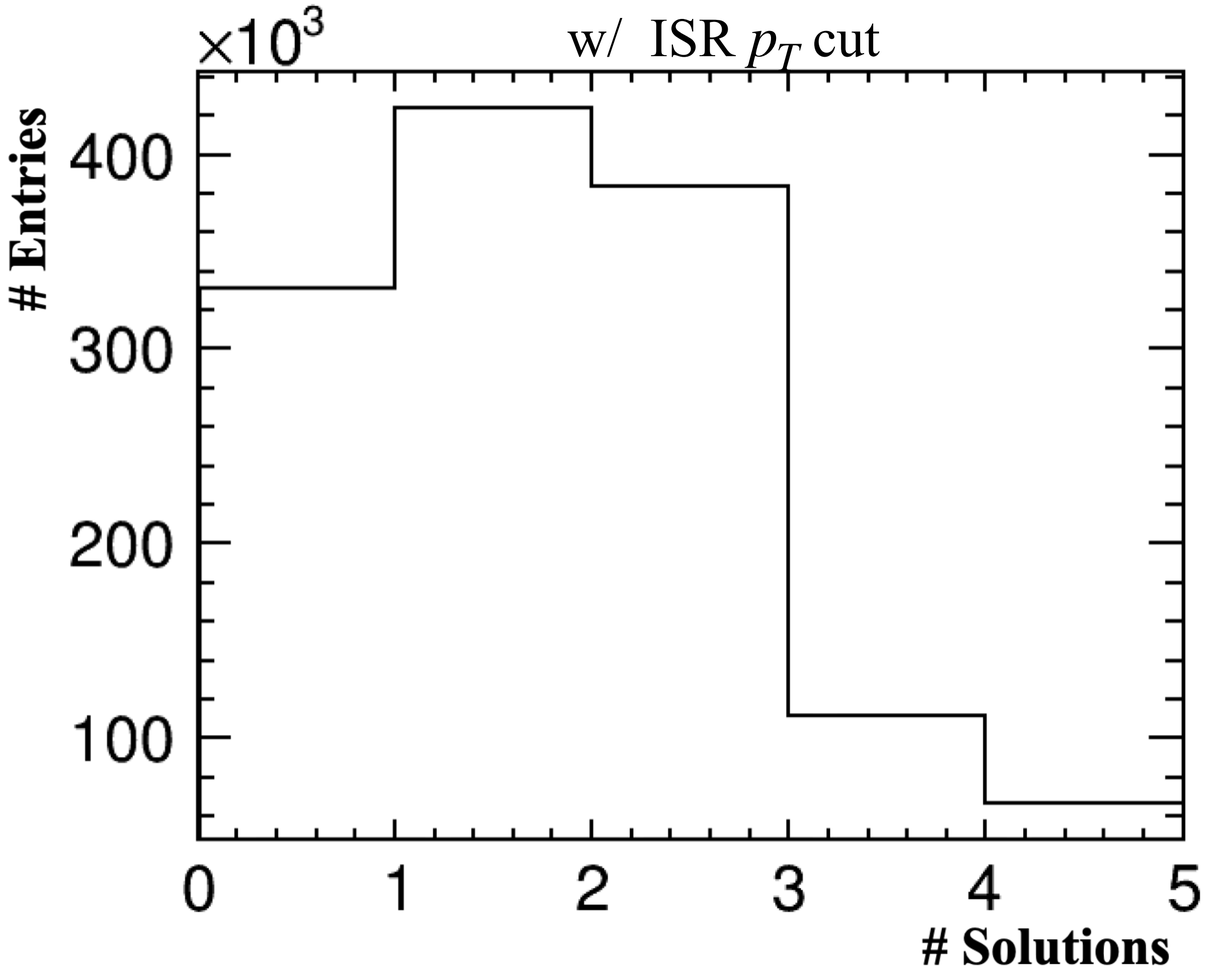
# Status report

- JPS meeting

- Snowmass paper

  arXiv:2203.07668

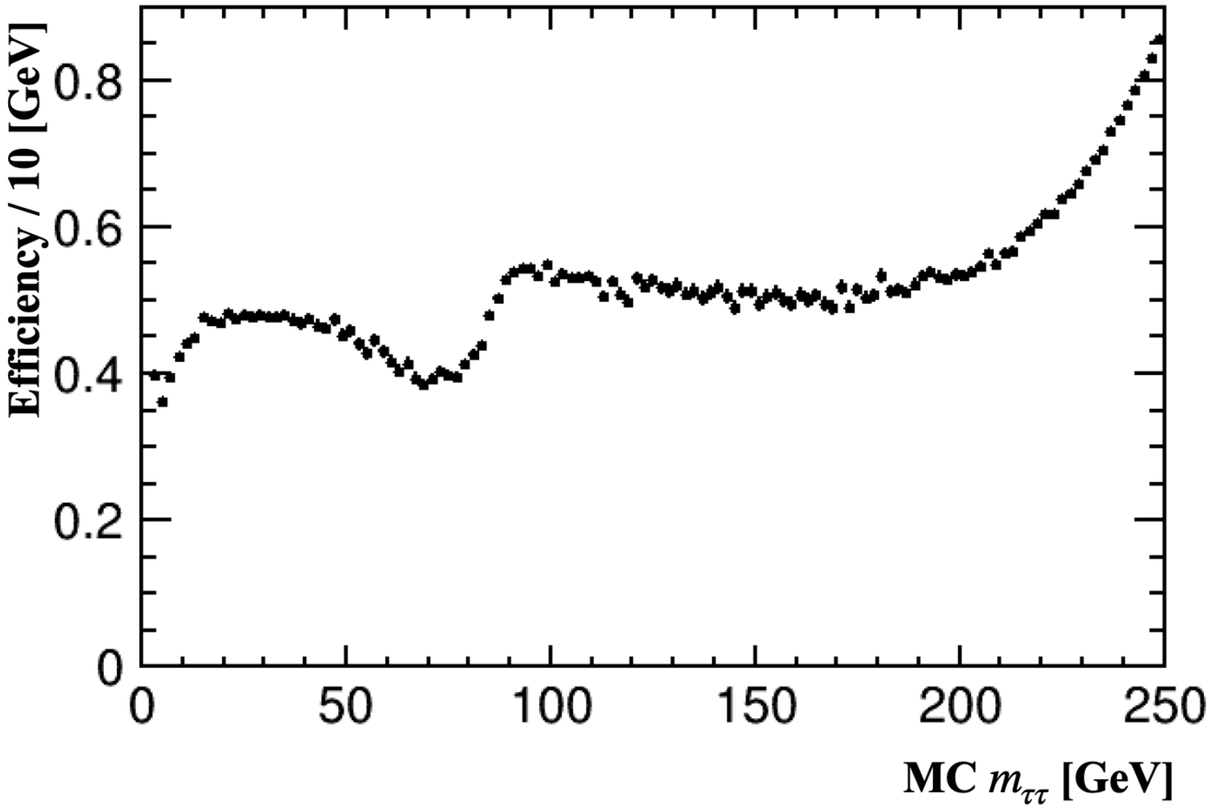


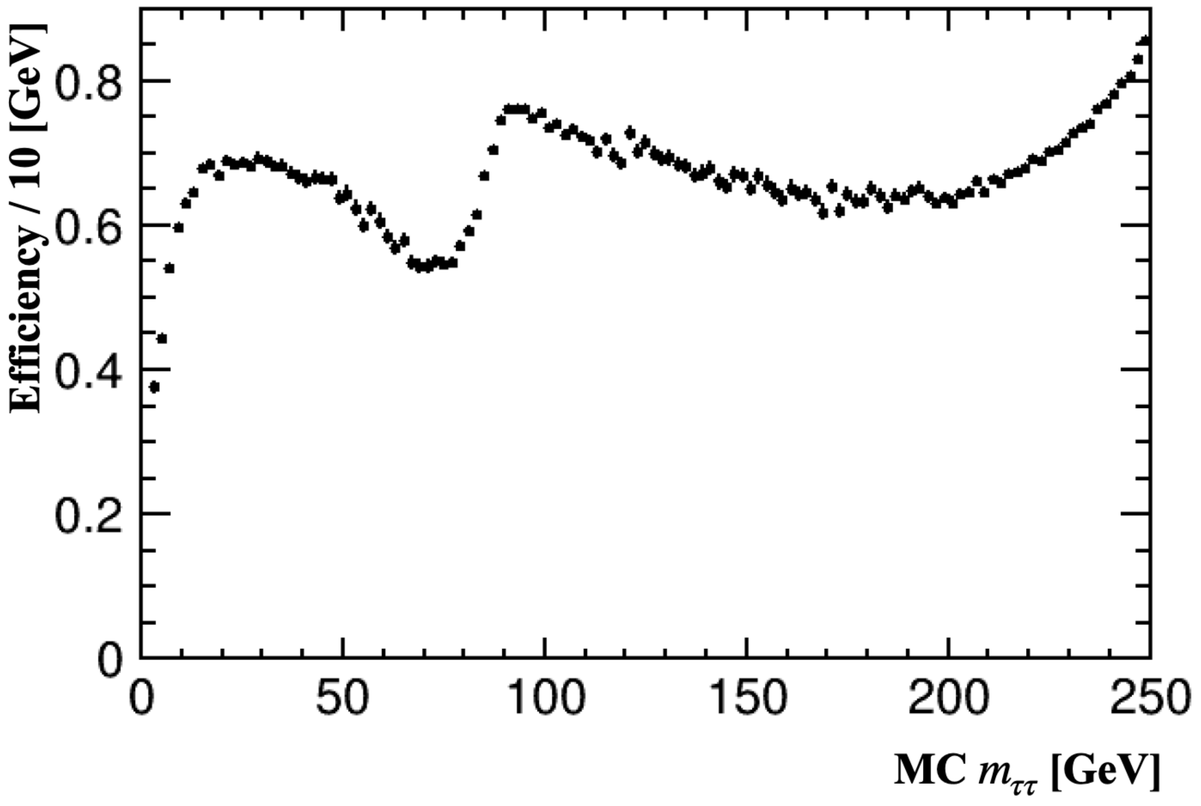

Only events whose ISR has small transverse momentum $< 5$ GeV

Half of the inefficiency is due to large missing transverse momentum

w/o ISR $p_T$ cut



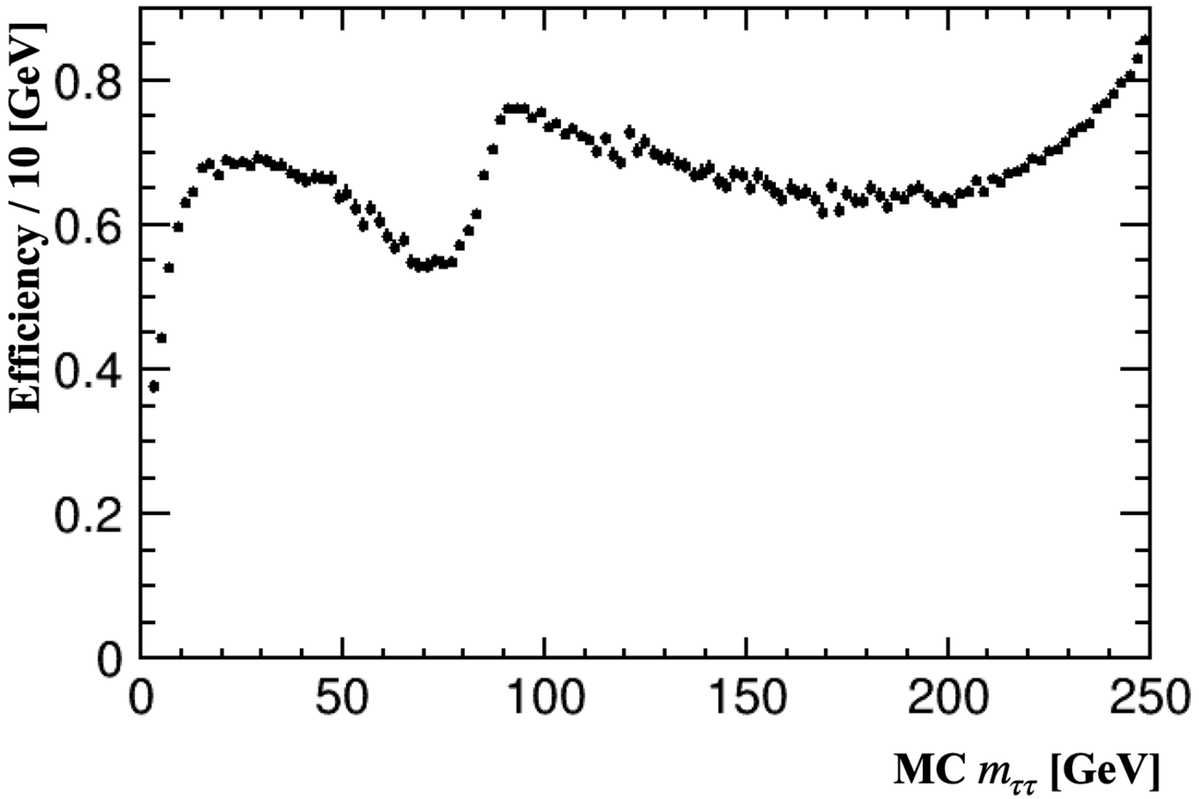

w/ ISR $p_T$ cut




Only events whose ISR has small transverse momentum $< 5$ GeV

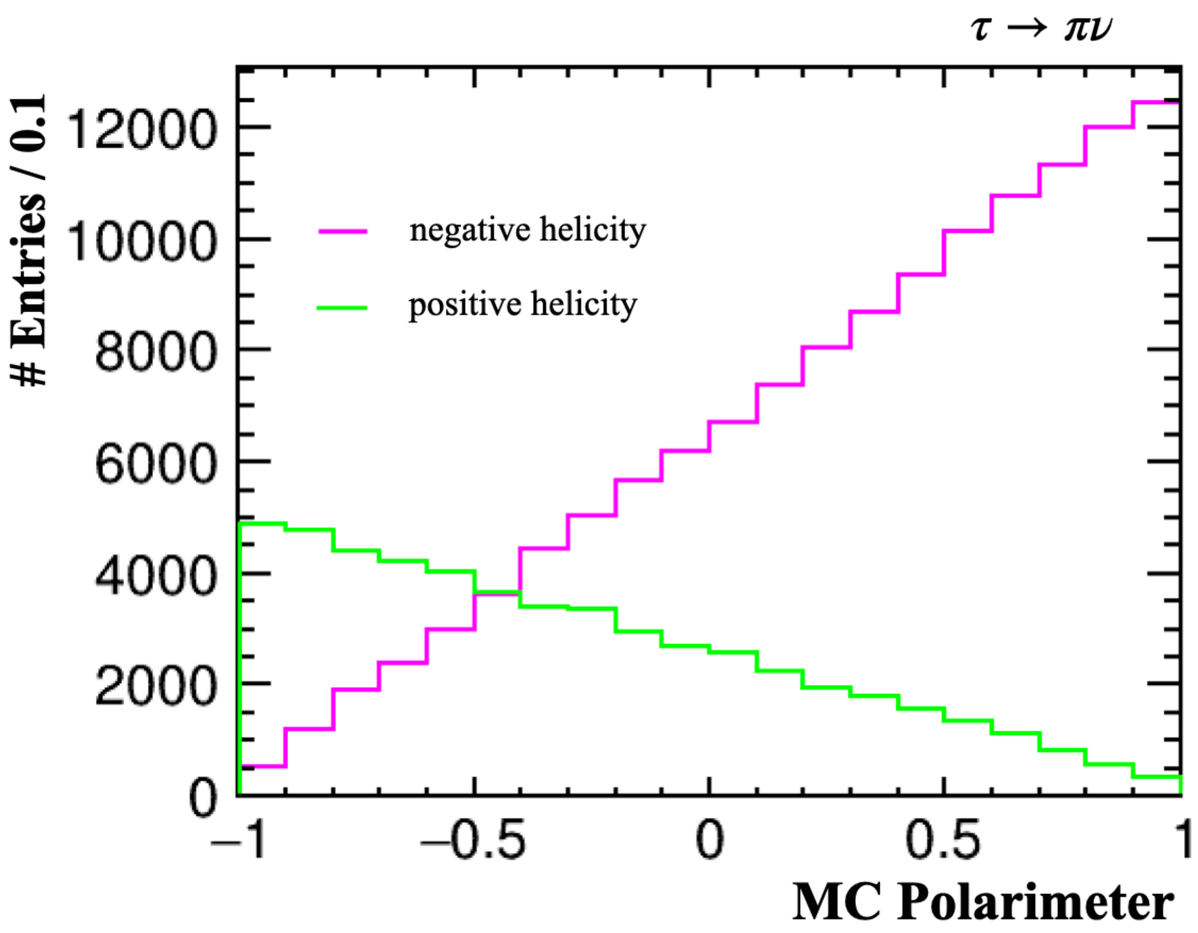
around 80 % at high $m_{\tau\tau}$, and remains in the range $60 - 70$ % down to very small $m_{\tau\tau} \sim 10$ GeV

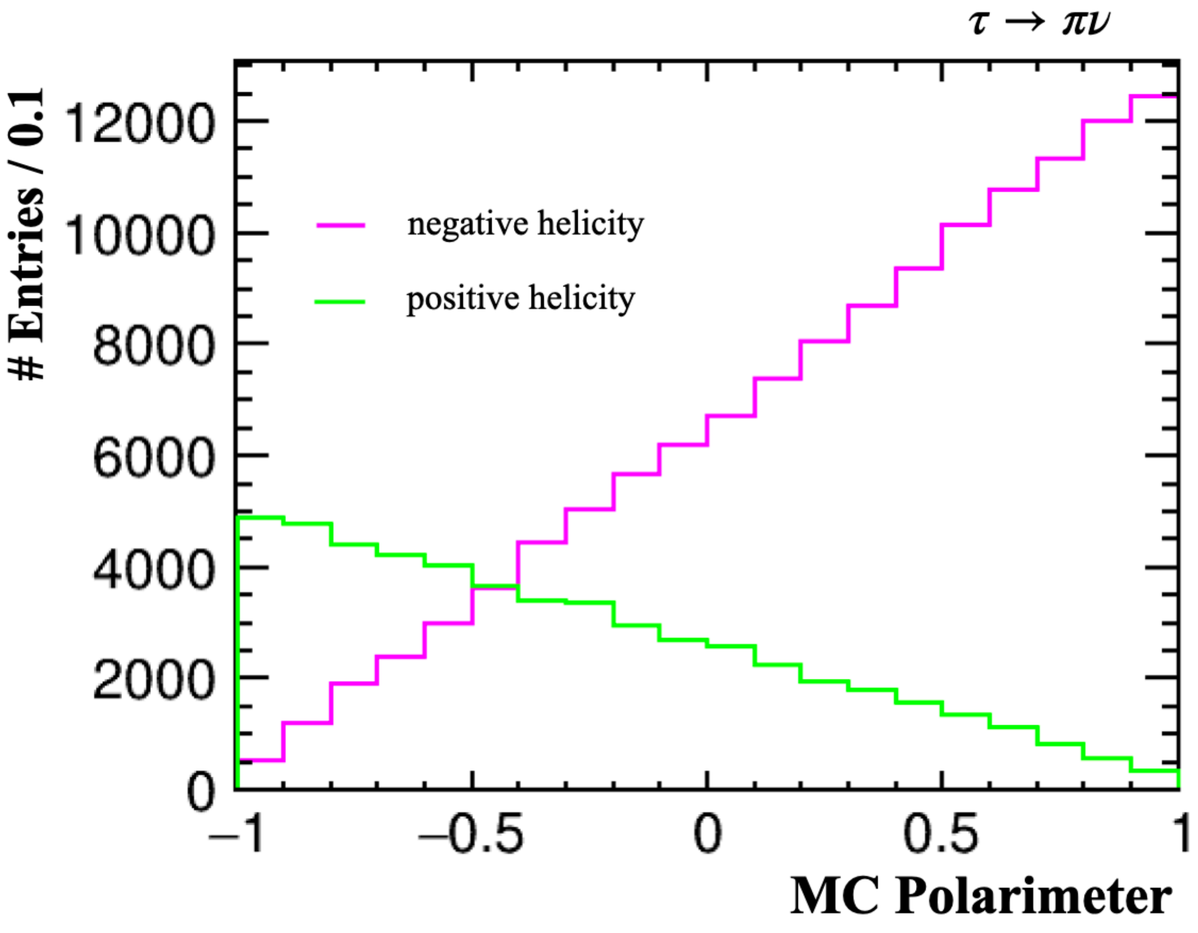
The shape around the Z-pole




Not yet fully understood

We have maximally 2 possible solutions per tau



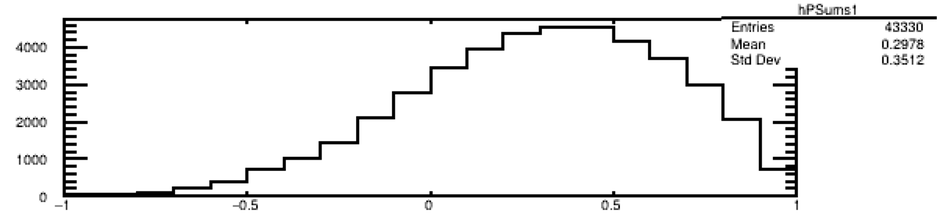

How to choose “Best solution” ?

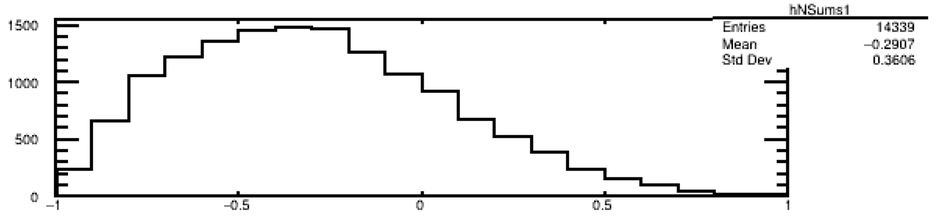
We take 2 entries from each polarimeter distribution, and averaged them

-ve

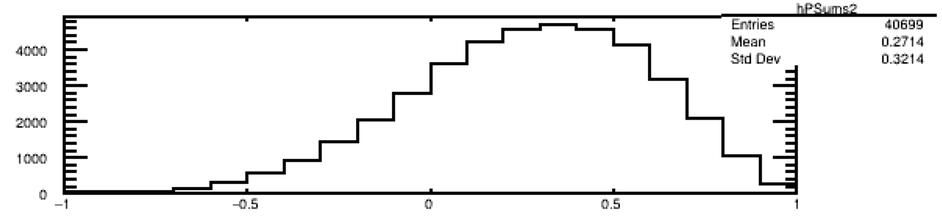
+ve

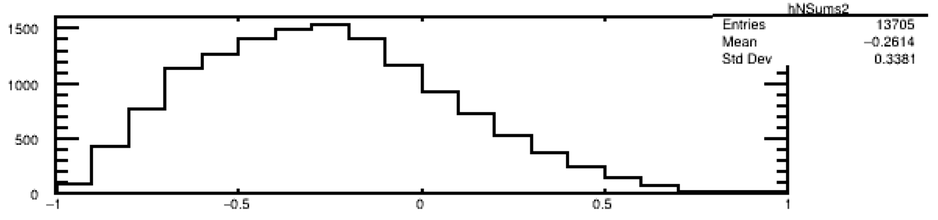
nsol==1



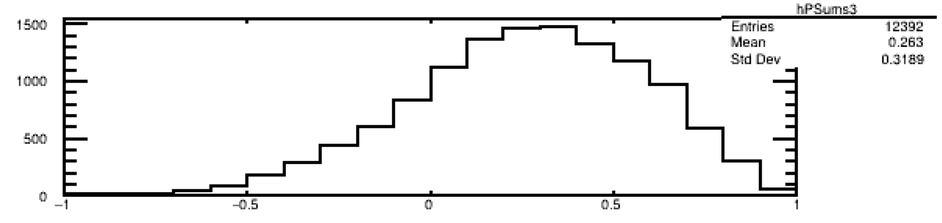



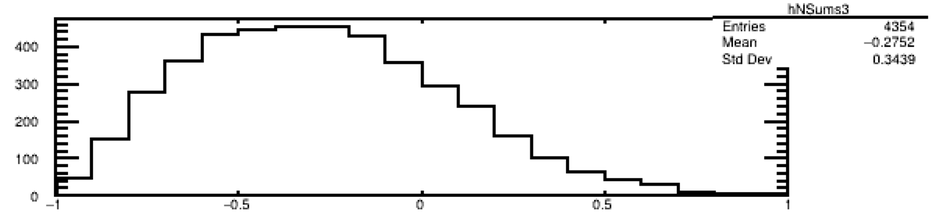

nsol==2



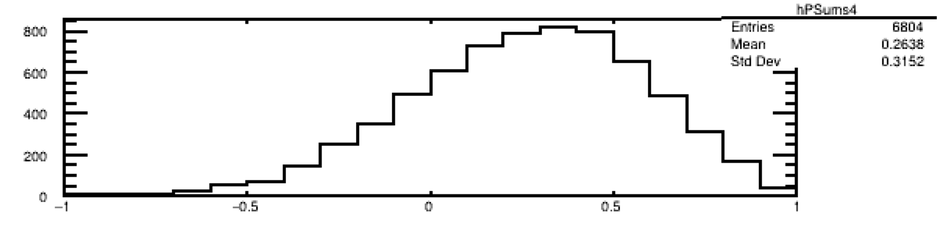



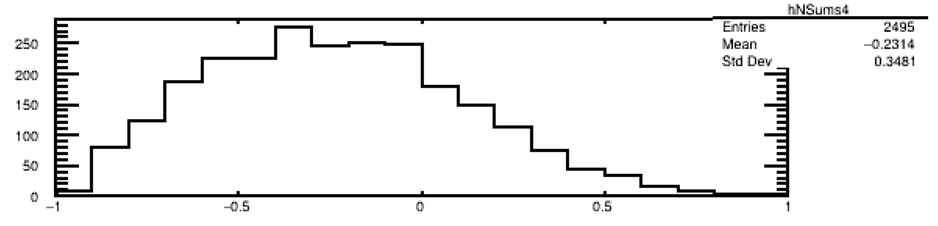

nsol==3

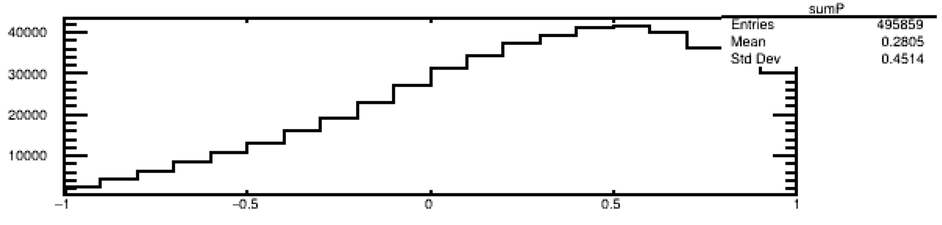


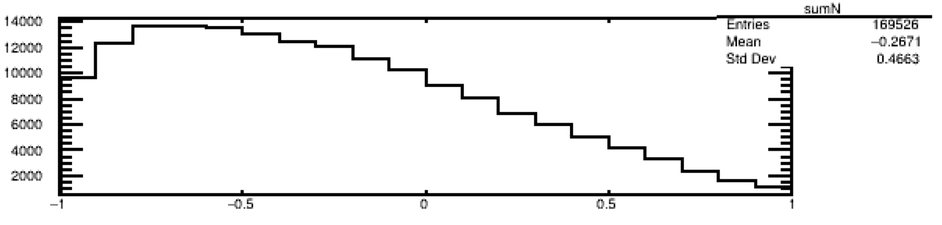



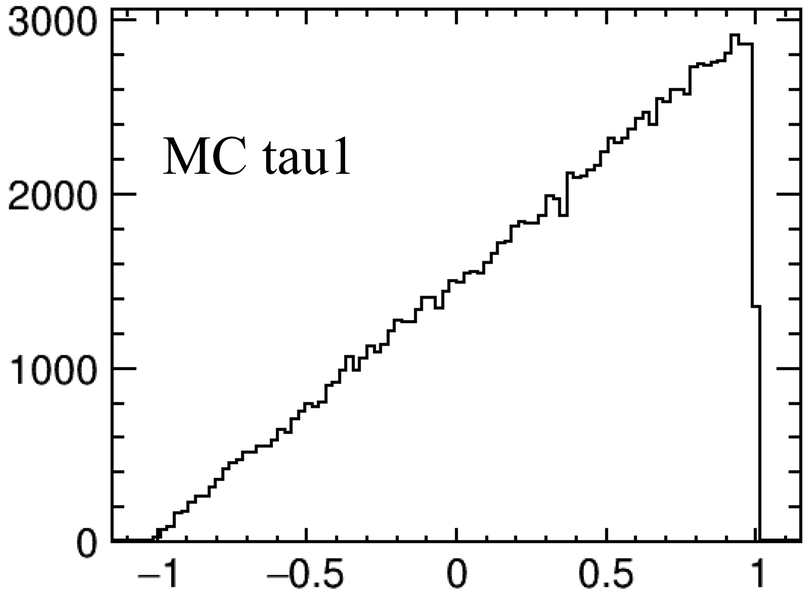

nsol==4

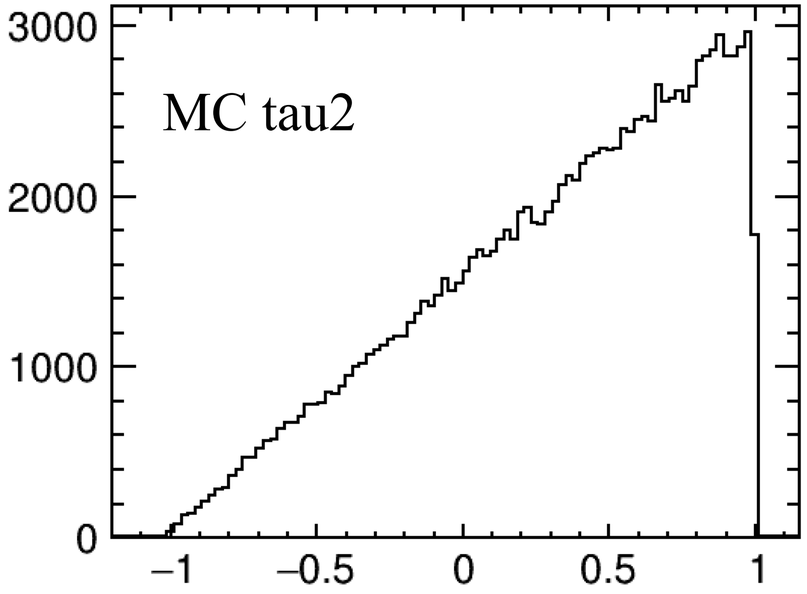


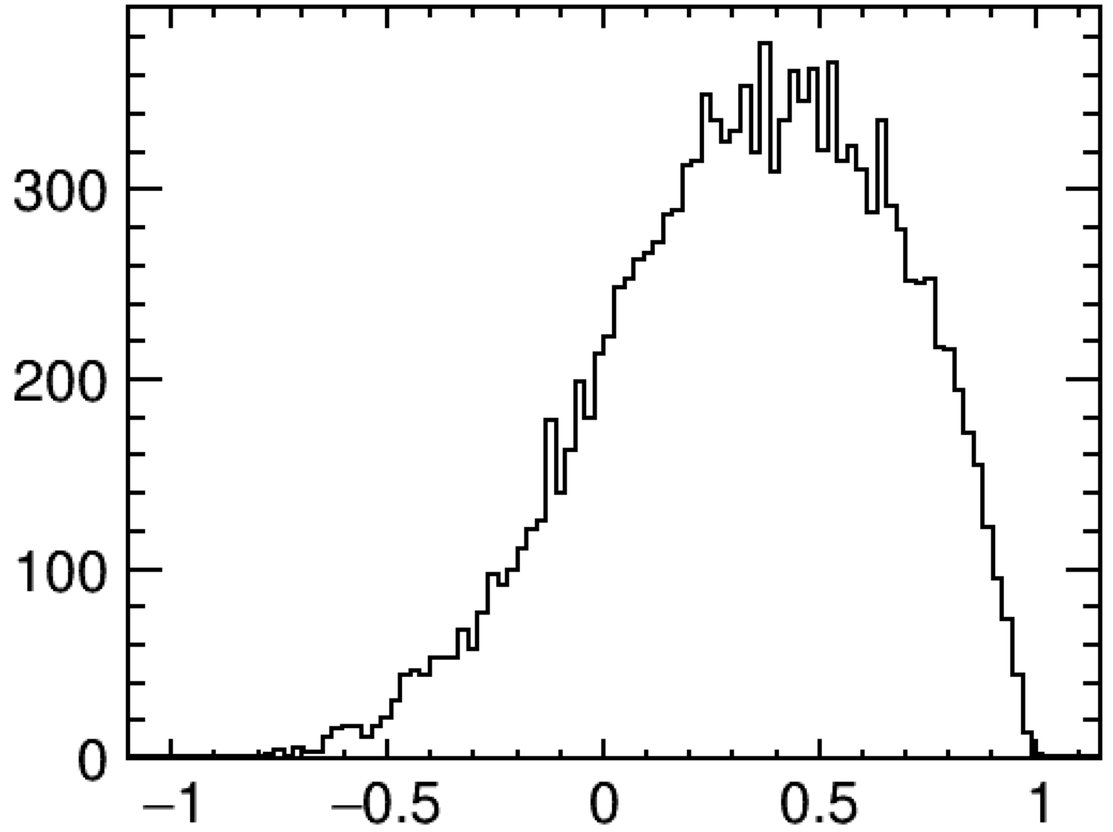



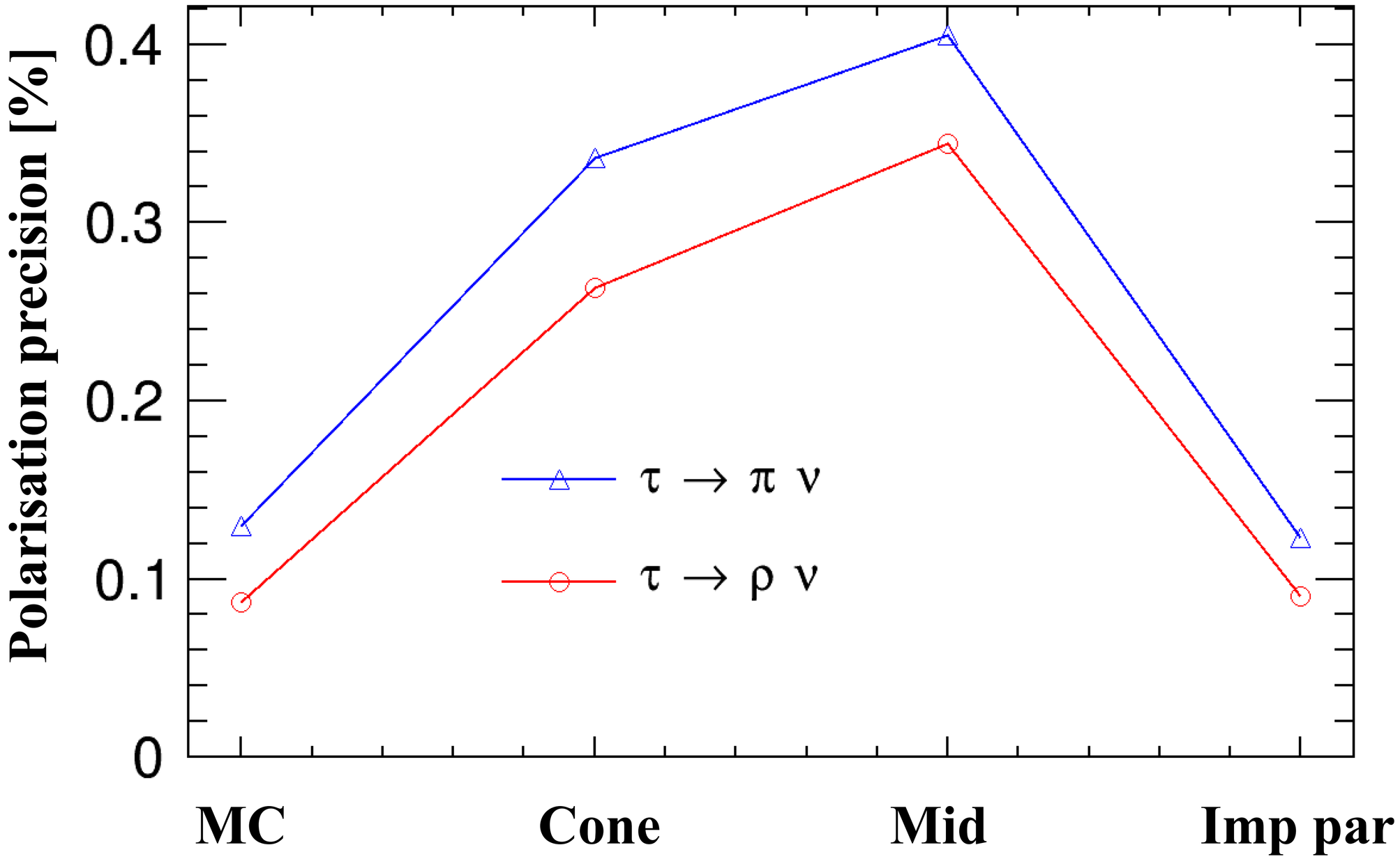



⇒

( MC tau1 + MC tau2 ) / 2




Polarisation precision [%]
0.4
0.3
0.2
0.1
0
τ → π ν
τ → ρ ν
MC
Cone
Mid
Imp par