

# Validation of 2f-leptonic testsamples

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# Introduction

- 2f-leptonic sample

rv02-01.sv02-01.mILD\_I5\_o1\_v02\_nobg.E250-SetA.I499997  
.P2f\_z\_l.eL.pR.n000.d\_dstm\_14705\_0.slcio

- Check tau-tau and mu-mu property (MC/PFO)

Invariant mass

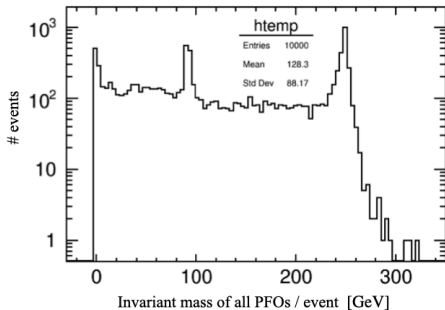
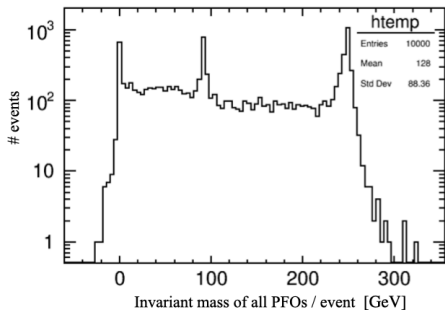
Energy

CosTheta

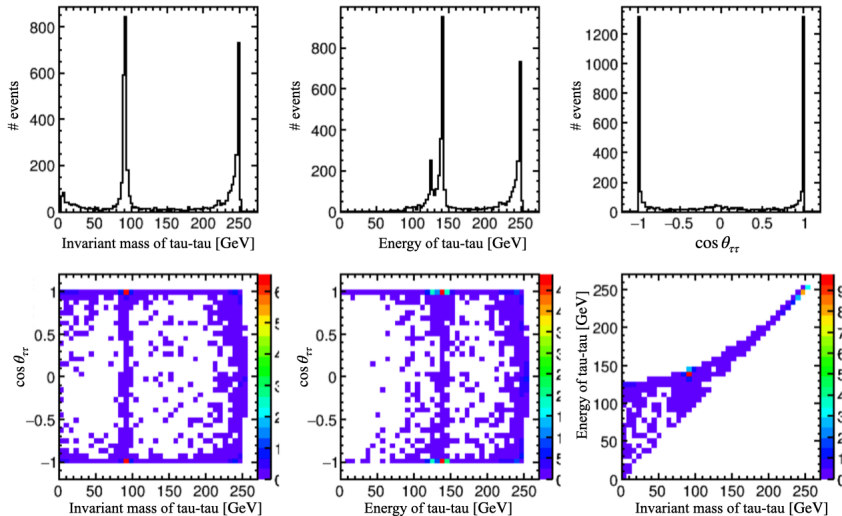
# Photon-like PFO

sometimes PFOs have a “negative” invariant mass.

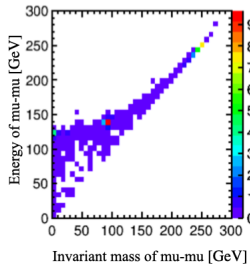
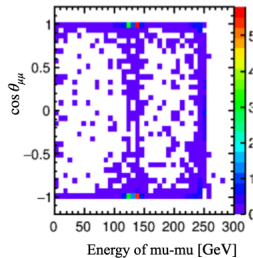
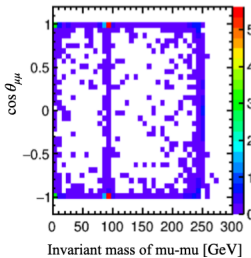
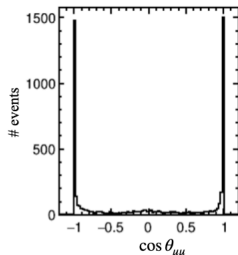
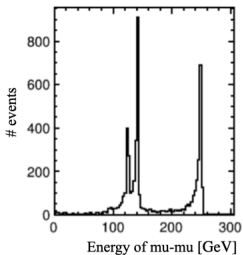
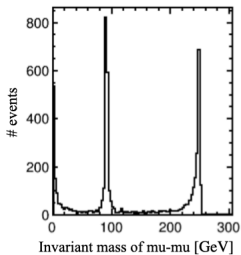
This was a problem in the new photon energy correction processor: it is now fixed.



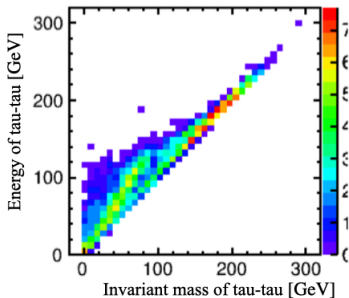
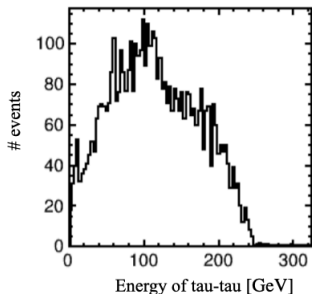
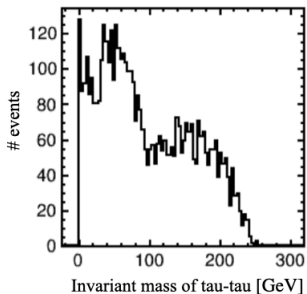
$$e^+e^- \rightarrow \tau^+\tau^-, \text{ MC}$$



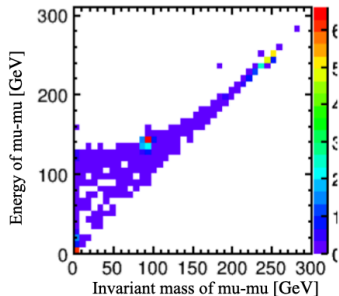
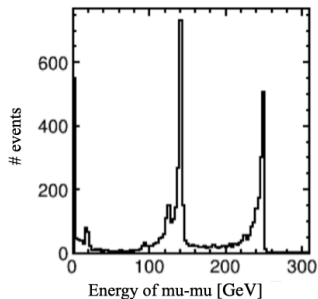
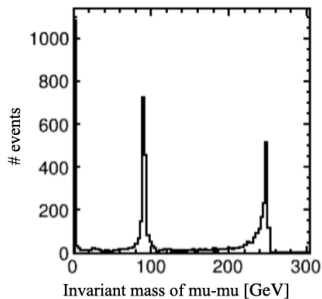
$e^+e^- \rightarrow \mu^+\mu^-$ , MC level



$e^+e^- \rightarrow \tau^+\tau^-$ , PFO



$e^+e^- \rightarrow \mu^+\mu^-$ , PFO



# Summary

- New Tau testsamples was checked
- Problem of negative invariant mass of PFOs was found
- There is no other problem found so far.
- I continue to study with new testsamples.