

# **Mumu Channel Update**

Connor Waits 8-30-22

### Cuts for 10 TeV CoM grid scan:

- (Max) Muon momentum: [3500, 4000, 4500, 5000] (GeV)
- (Max) Muon eta: [1.5, 1.75, 2, 2.25]
- (Min) Jet momentum: [0, 500, 1000, 1500] (GeV)
- (Max) Jet eta: [1.5, 1.75, 2, 2.25]

With 1 million event background:

Cuts:

- (Max) Muon momentum: N/A
- Muon eta: 2.25
- (Min) Jet momentum: 1500 GeV
- Jet eta: 2

Best Limits: [-0.0032, 0.0012]

With 30 million event background:

Tight Selection:

- (Max) Muon momentum: 4500 GeV
- Muon eta: 2.25
- (Min) Jet momentum: 500 GeV
- Jet eta: 1.5

Best Limits: [-0.00218, 0.00109]

With 30 million event background

Loose Selection:

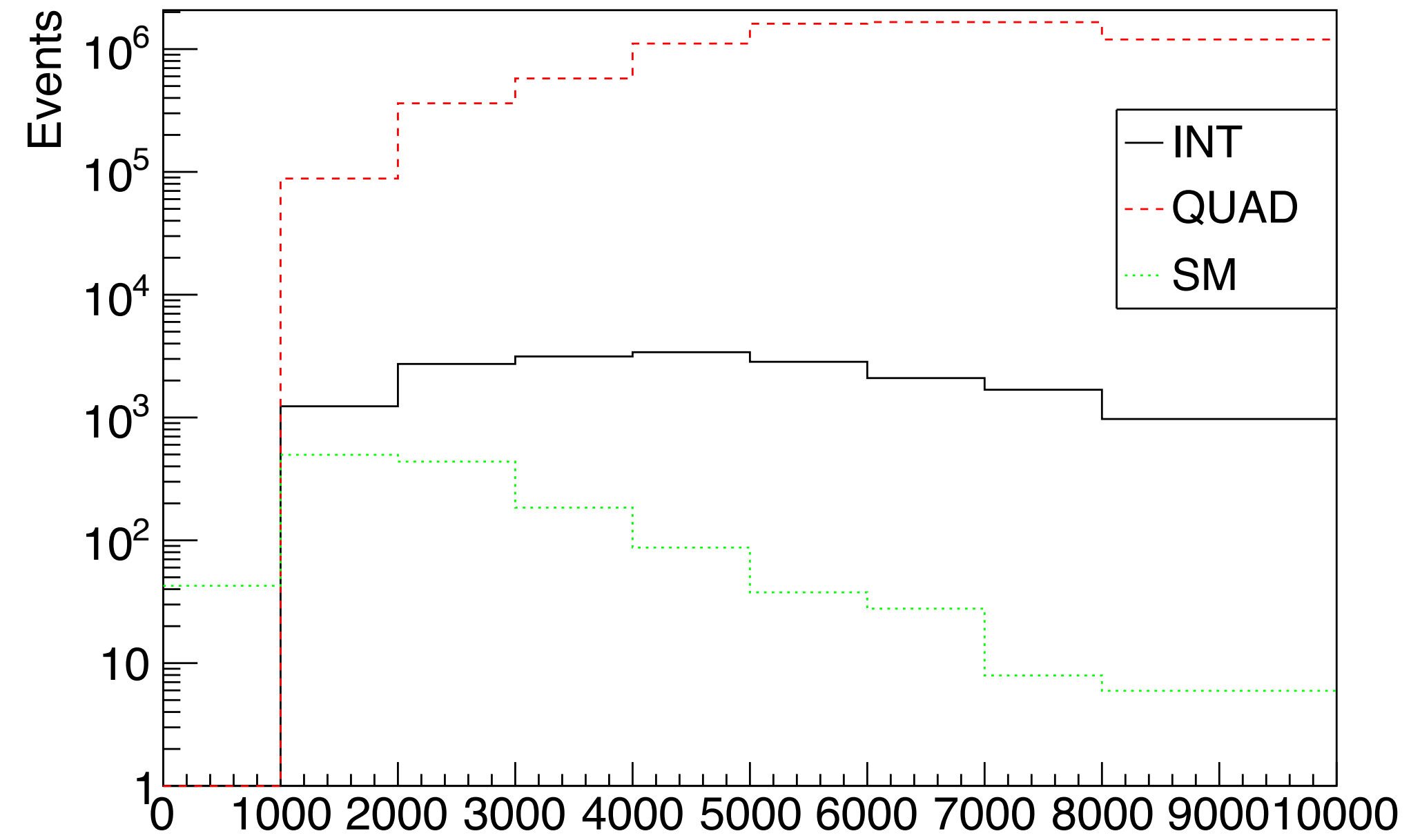
- (Max) Muon momentum: 5000 GeV
- Muon eta: 2.25
- (Min) Jet momentum: 0 GeV
- Jet eta: 2.25

Limits: [-0.00247, 0.00107]

8.3% difference in span of limits (upper - lower) between tight and loose sets of cuts

# Dijet Mass Distributions

## Tight cuts



## Loose cuts

