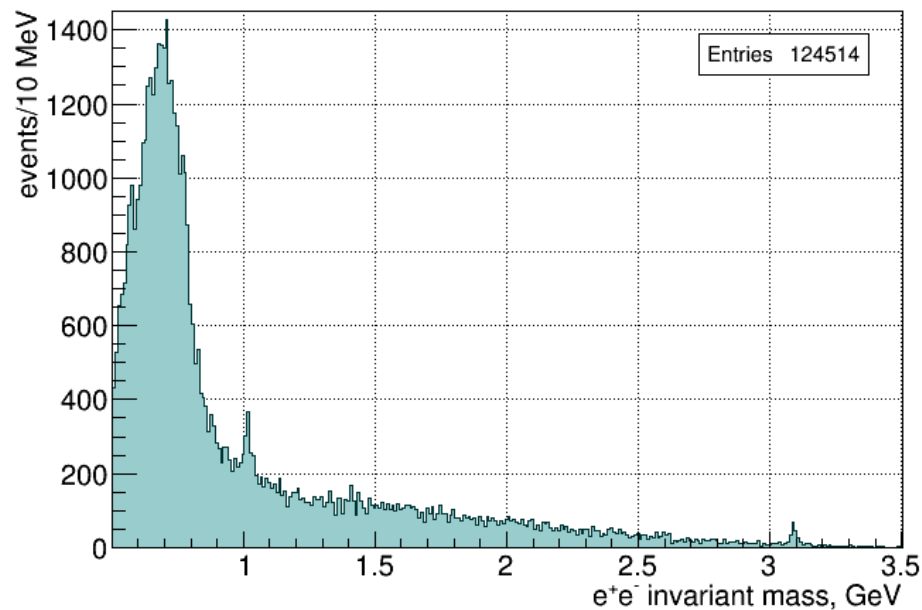
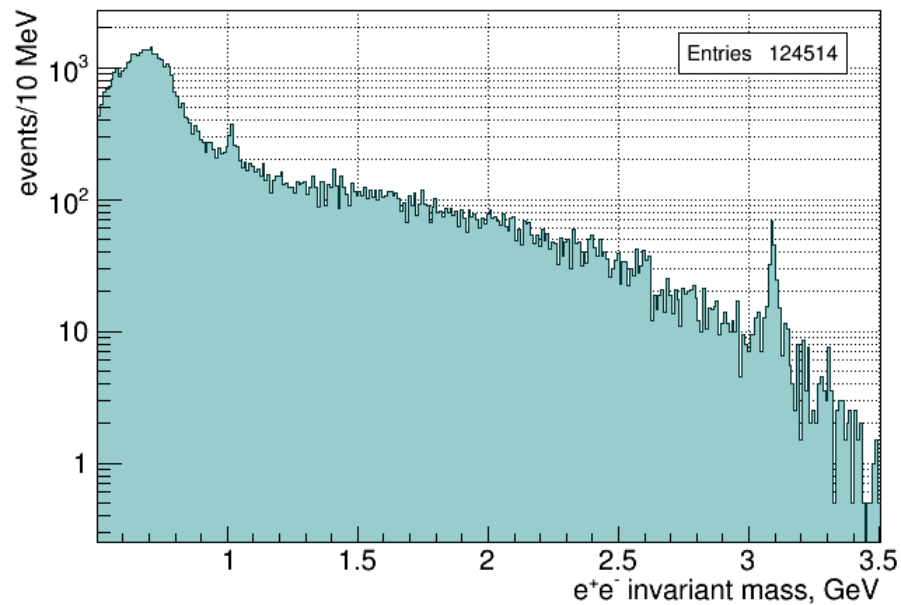


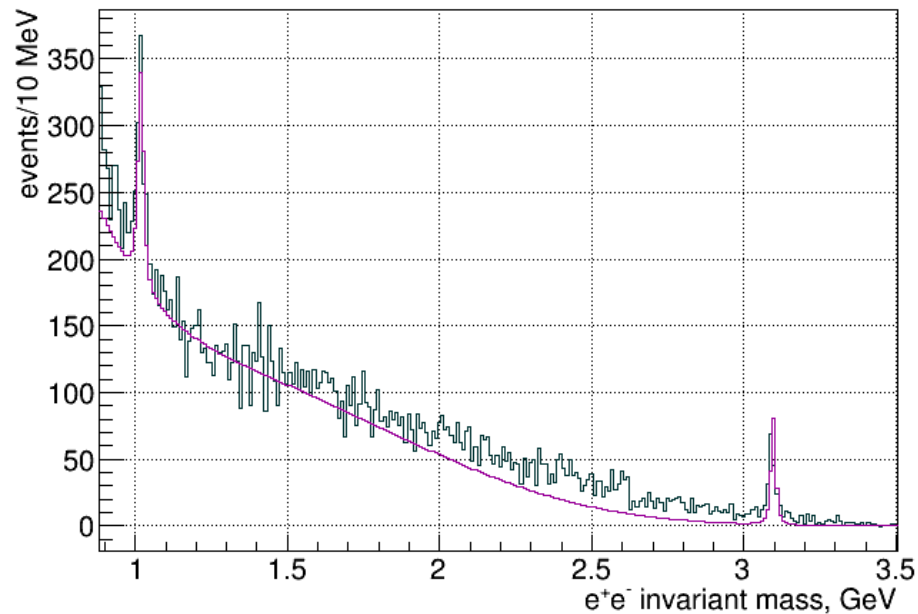
2016 + 20 files per run from 2017 data



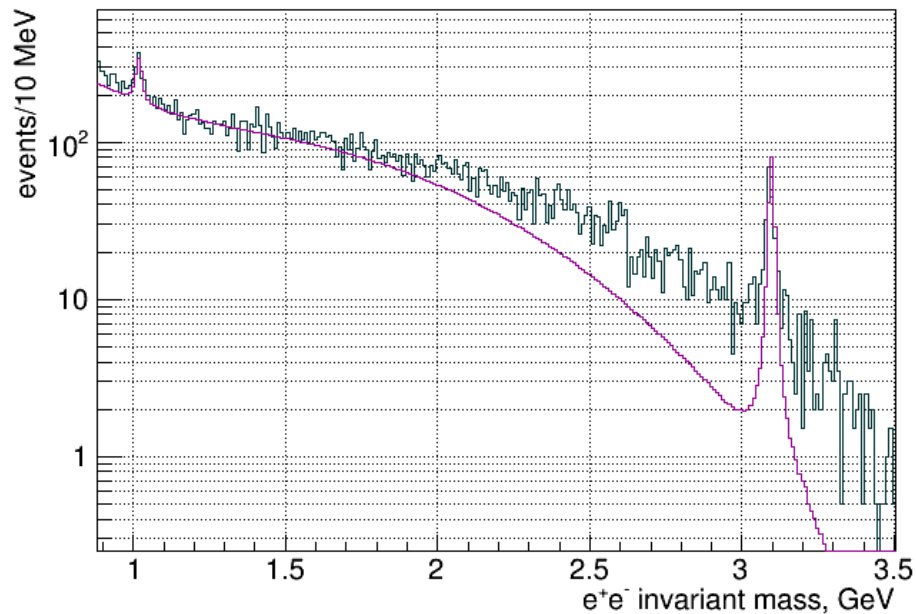
Require kin.fit converges and $\theta_e > 1^\circ$

2016 + 20 files per run from 2017 data

2016 + 20 files/run 2017 data - MC normalized to $\phi - \theta_e > 1^0$

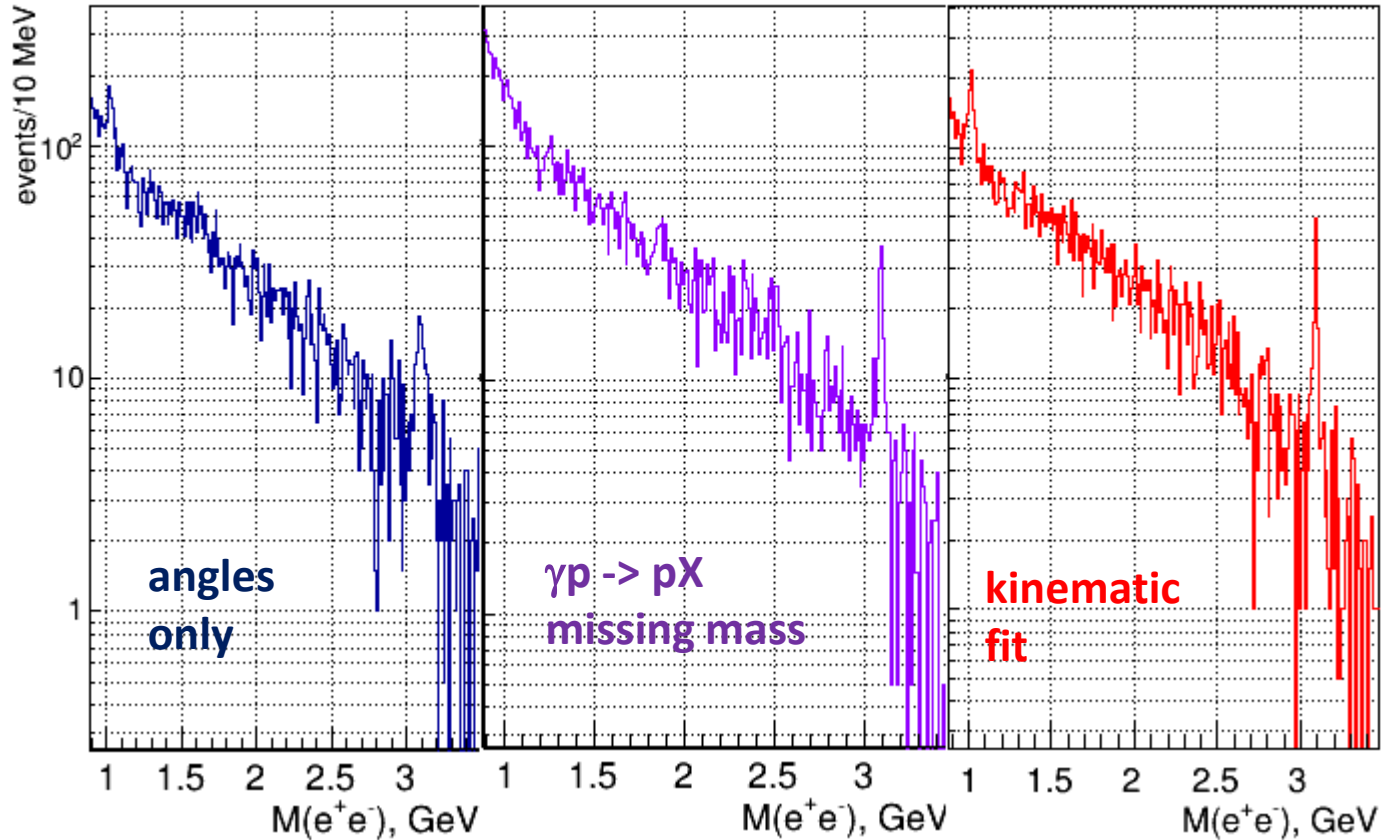


2016 + 20 files/run 2017 data - MC normalized to $\phi - \theta_e > 1^0$



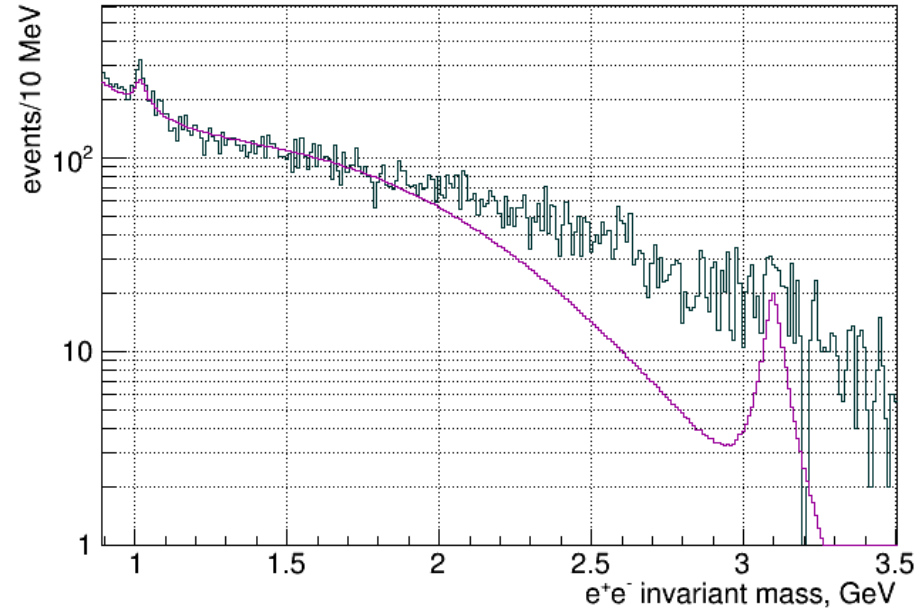
Require kin.fit converges and $\theta_e > 1^0$

Reconstructing p , e^+ , e^- momenta from angles (2016 data)

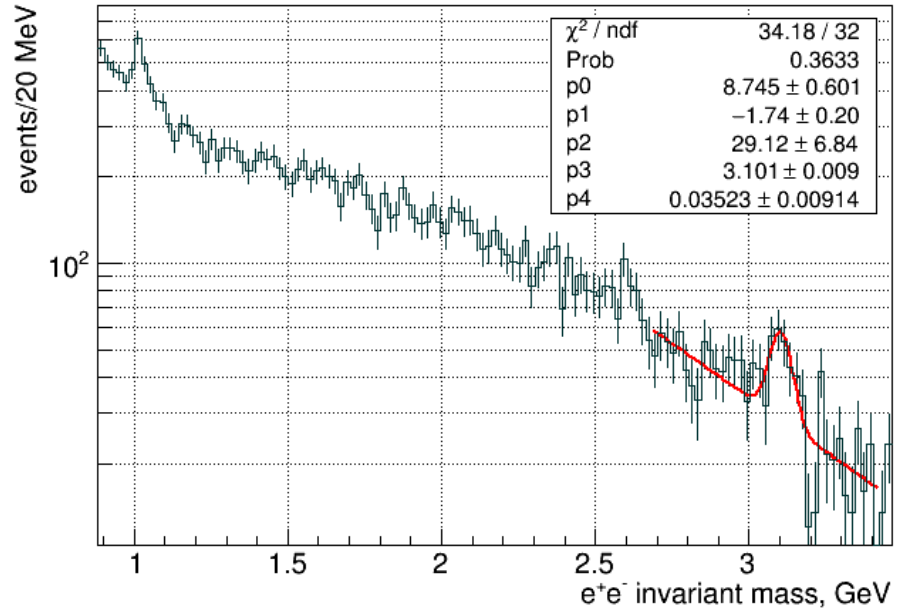


Reconstructing p , e^+ , e^- momenta from angles (2016 data)

NO kinematic fit used



NO kinematic fit used

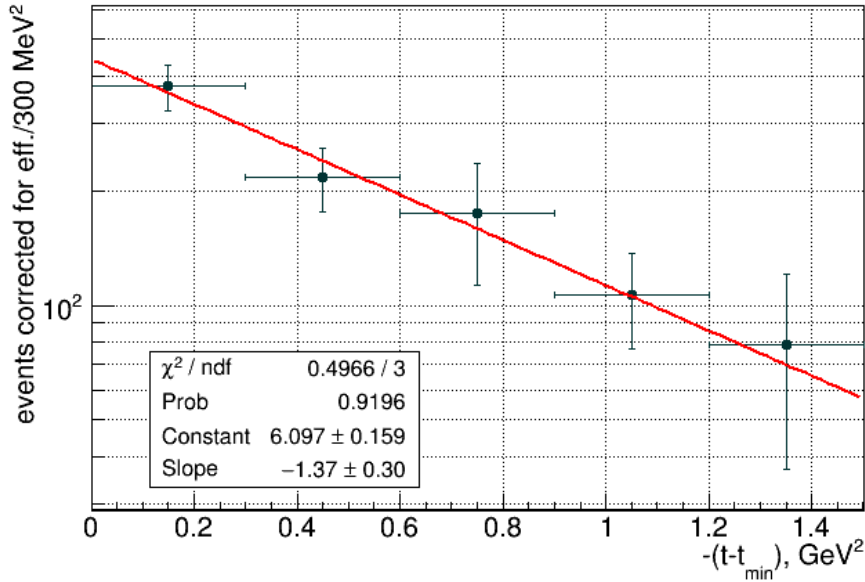


Momenta calculated from angles

Require energy conservation to ± 200 MeV and $\Delta r(\text{vertex}) < 4$ cm

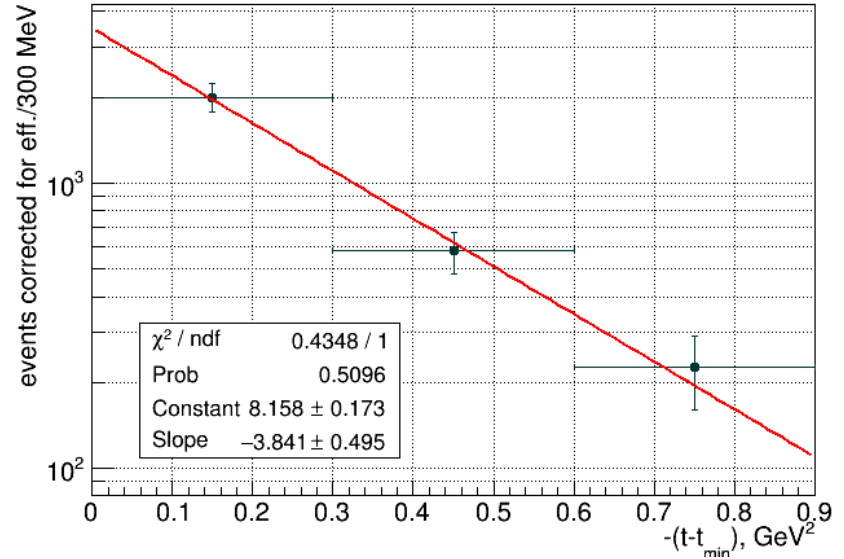
Analysis in bins of t

J/ψ t-dependence



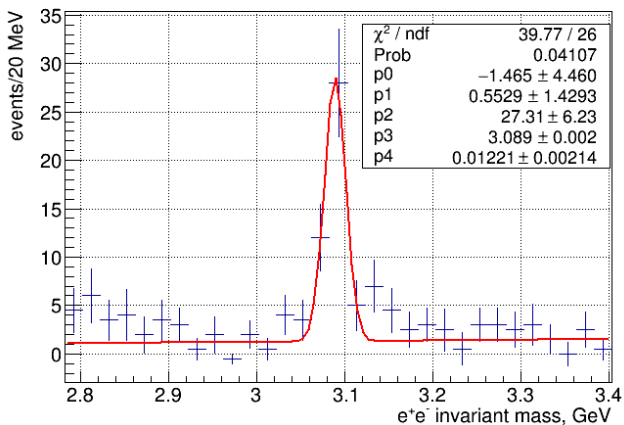
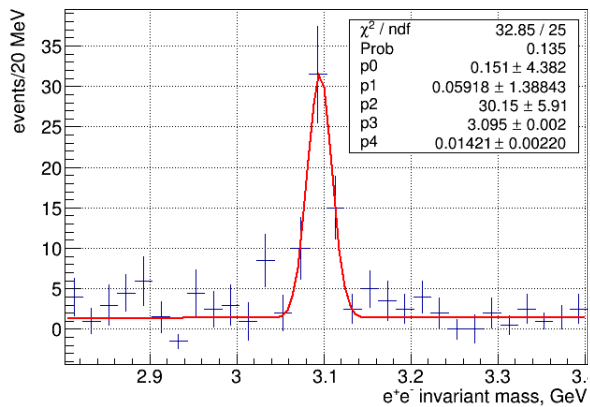
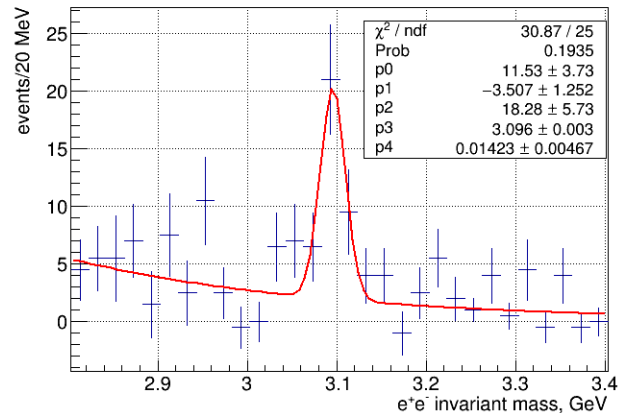
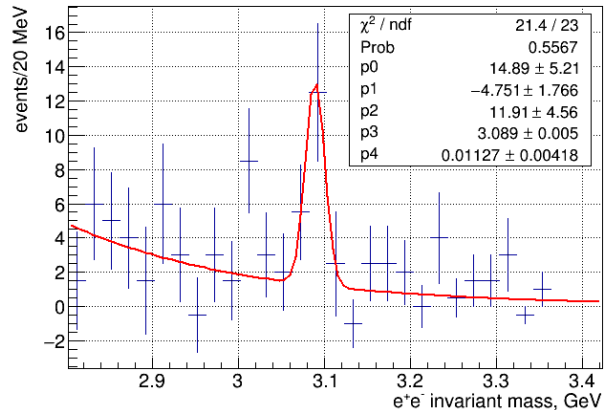
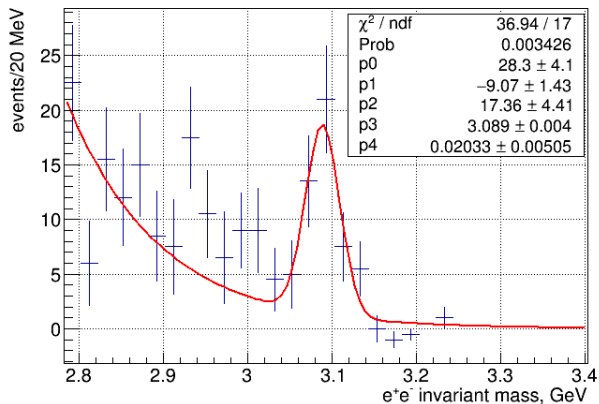
t-slope of Cornell data 1.2 GeV^{-2} at $E_\gamma = 11 \text{ GeV}$

ϕ t-dependence



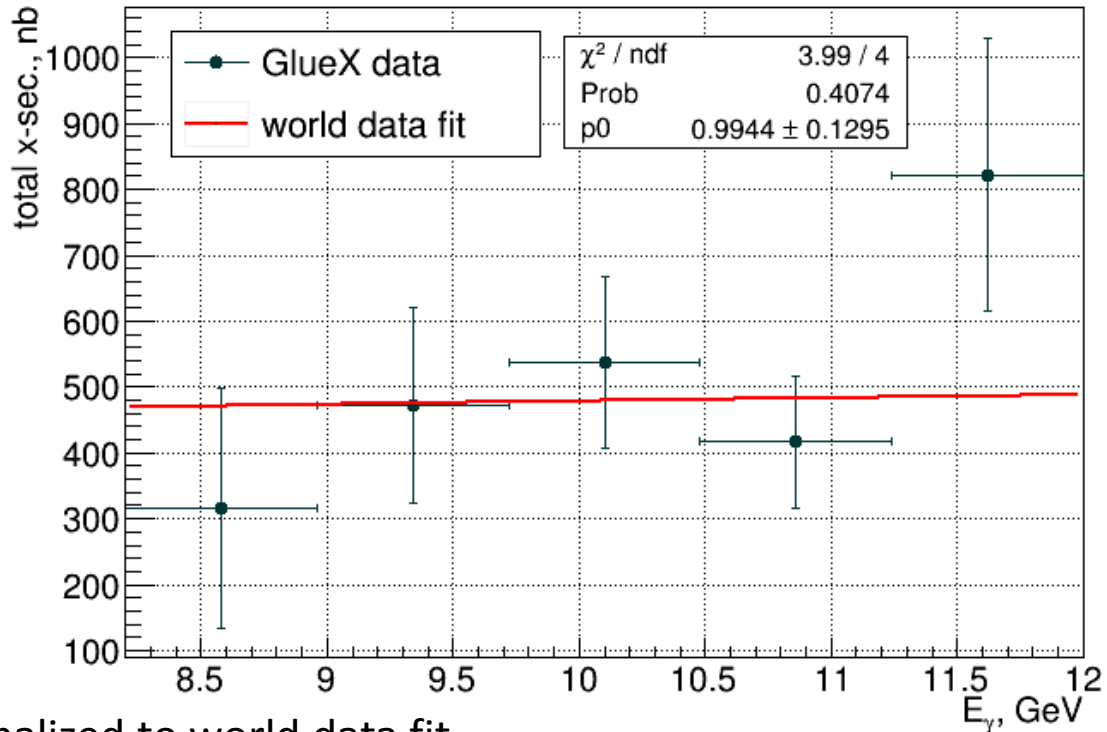
t-slope of old data $\sim 3.5 \text{ GeV}^{-2}$

Analysis in bins of energy



ϕ x-sec. vs beam energy

ϕ x-sec. from e^+e^- 2016 + 20 files/run from 2017 data

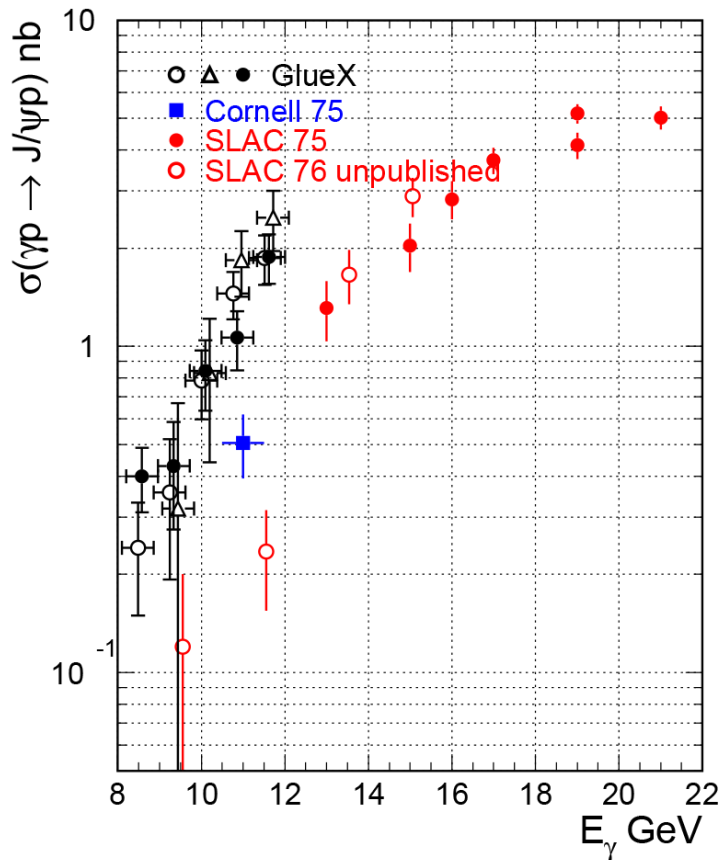


GlueX data normalized to world data fit -
gives estimate of (luminosity) * (efficiency)

J/ψ x-sec. vs beam energy

t-slope of SLAC data
 2.9 GeV^{-2}

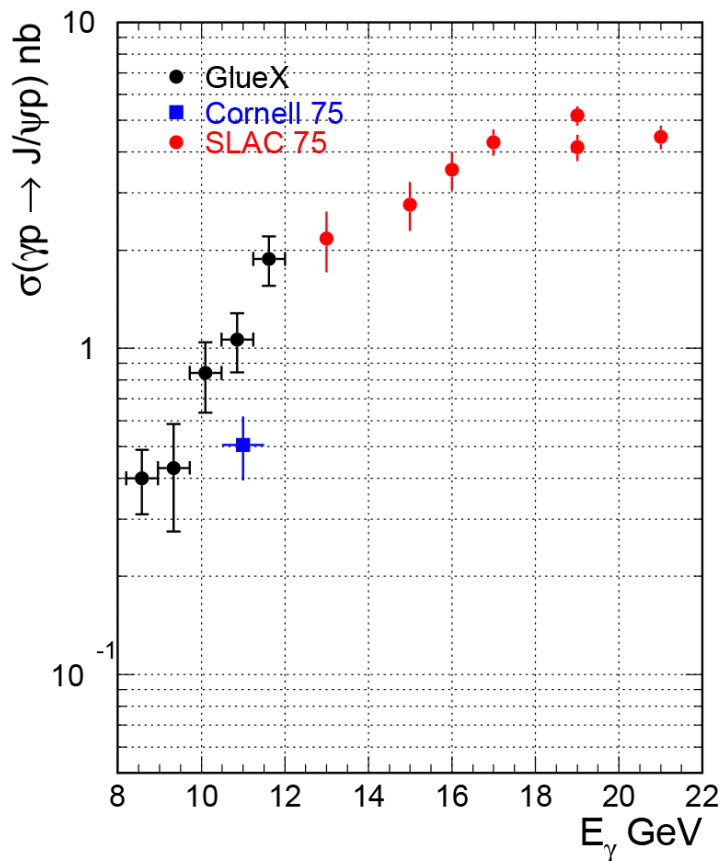
t-slope of Cornell
data 1.2 GeV^{-2}



J/ψ x-sec. vs beam energy

t-slope of SLAC data
1.39 - 2.9 GeV⁻² (13-
21 GeV)

t-slope of Cornell
data 1.2 GeV⁻²

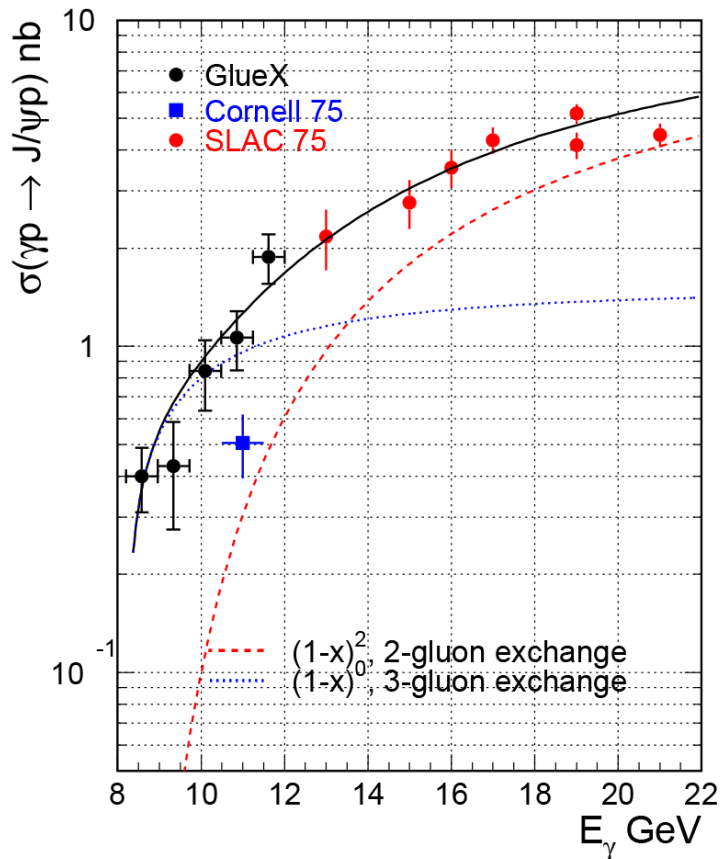


● Fits in slices of energy

J/ψ x-sec. vs beam energy

t-slope of SLAC data
1.39 - 2.9 GeV⁻² (13-
21 GeV)

t-slope of Cornell
data 1.2 GeV⁻²



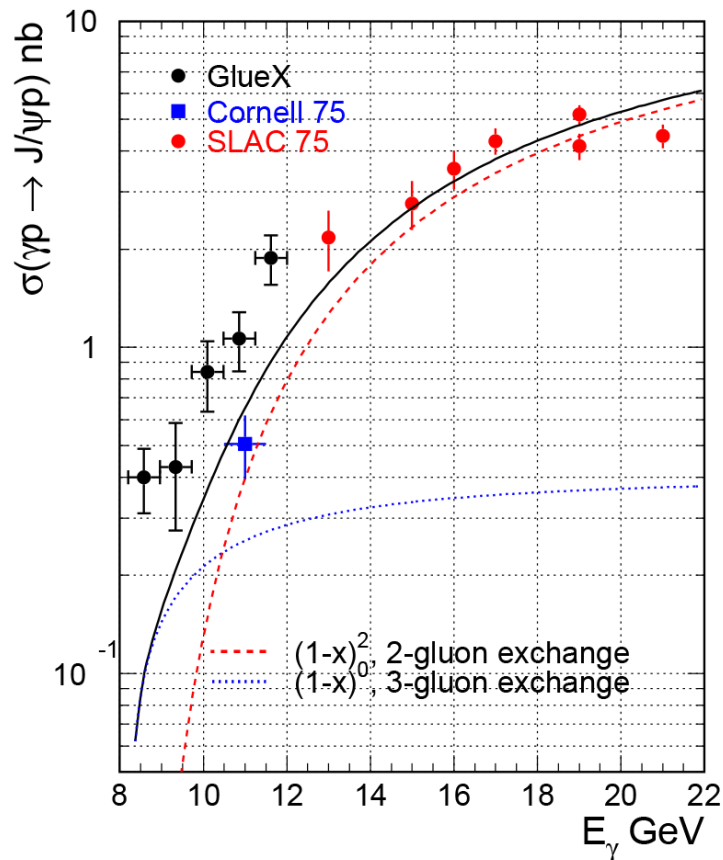
● Fits in slices of energy

Cornell data excluded from fit

J/ψ x-sec. vs beam energy

t-slope of SLAC data
 $1.39 - 2.9 \text{ GeV}^{-2}$ (13-21 GeV)

t-slope of Cornell
data 1.2 GeV^{-2}



● Fits in slices of energy

● GlueX data excluded from fit