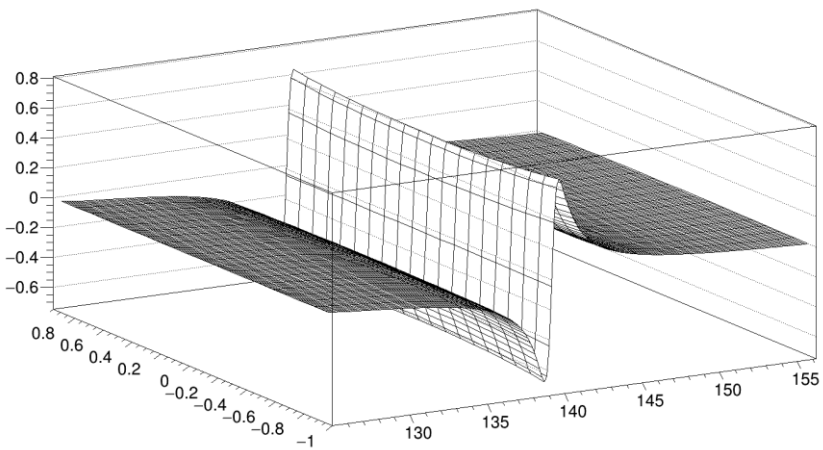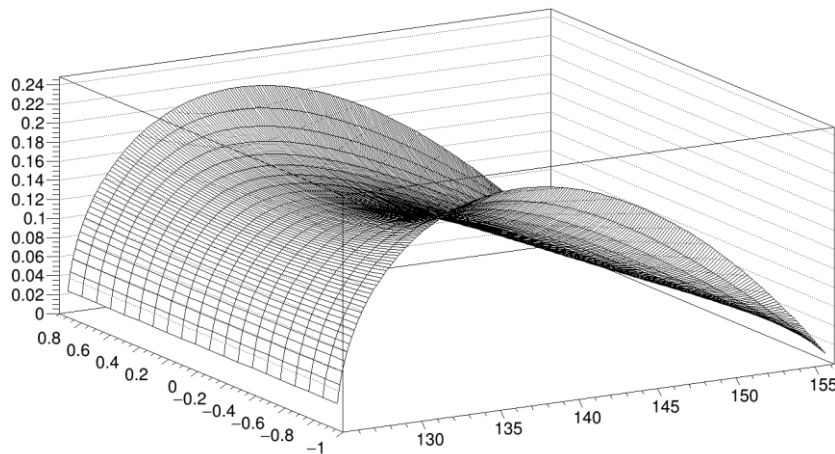# WW fusion, X-section Validation

Hao

2018/4/23
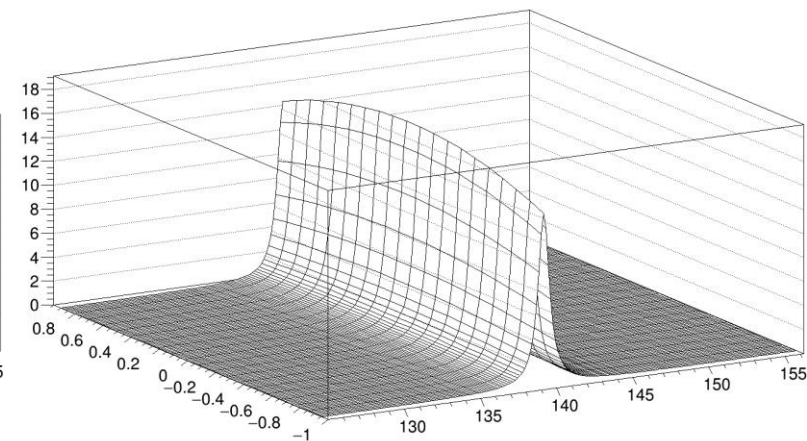
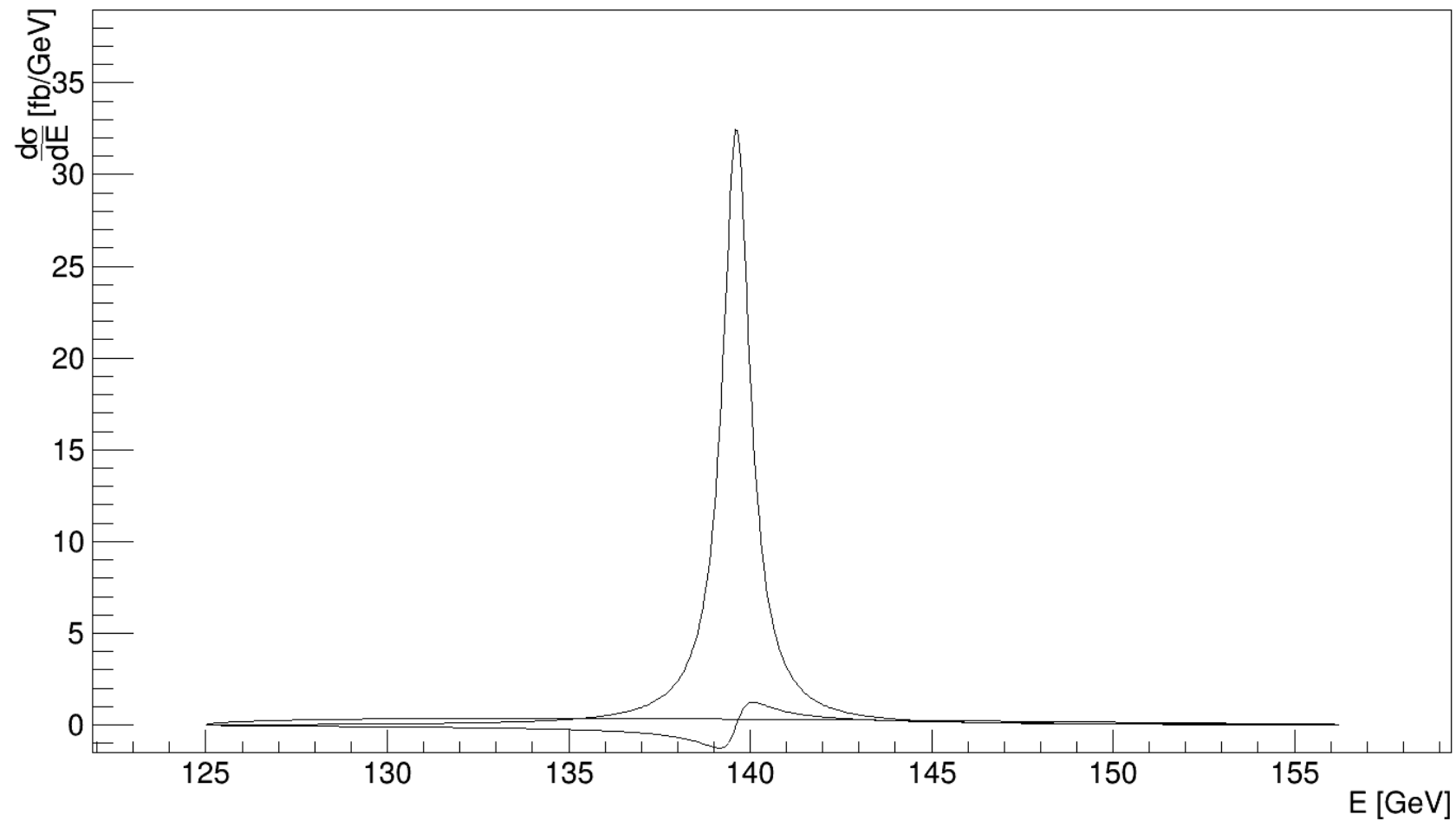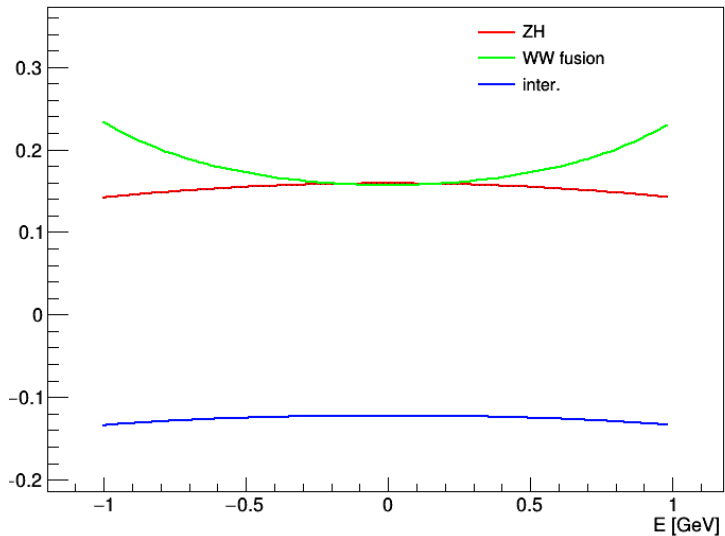$$\frac{d^2\sigma}{dEd\theta} \text{ at } \sqrt{s} = 250\text{GeV}$$

Inter.

ZH

ZH

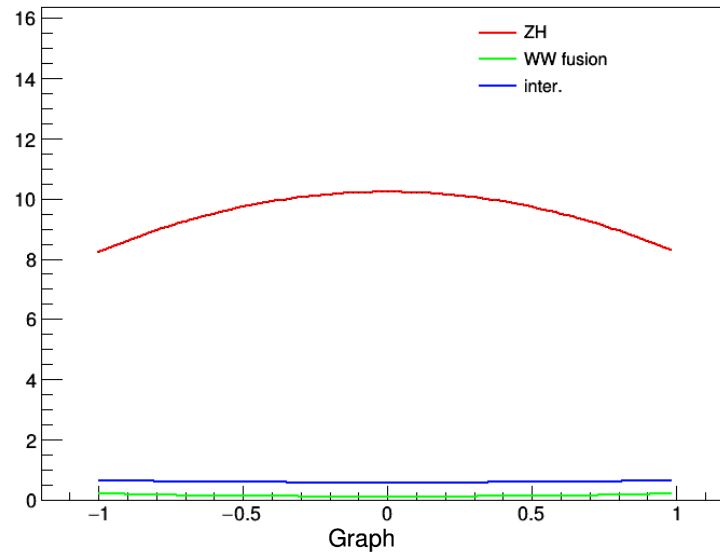$$\frac{d\sigma}{dE} \text{ at } \sqrt{s} = 250\text{GeV}$$

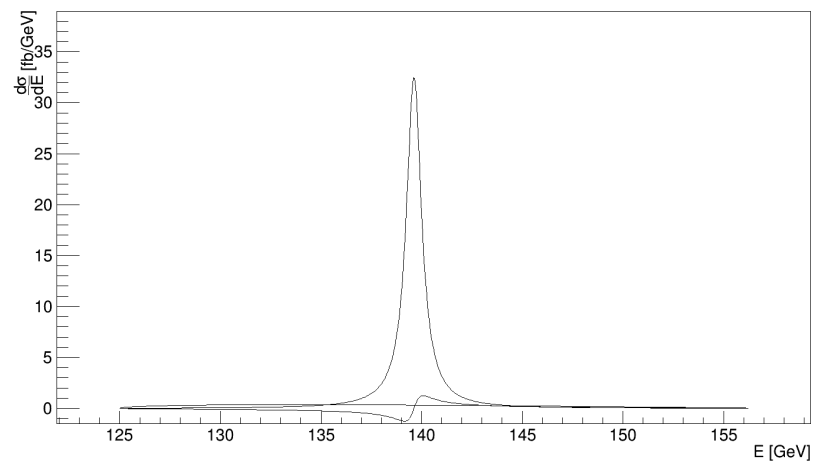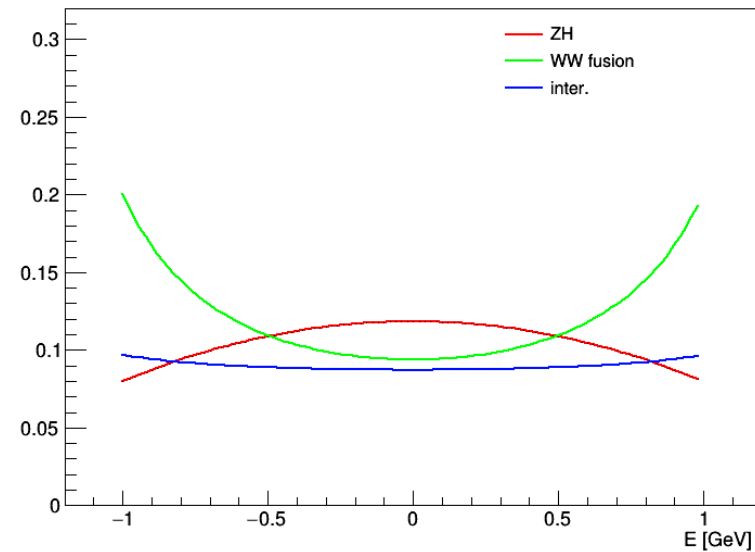$$\frac{d\sigma}{dEd\cos\theta} \text{ at } \sqrt{s} = 250\text{GeV}$$

Eh = 135.000000

Eh = 140.000000

Eh = 145.000000

X-sections vs center of mass energy

- Total X-section by integrate out E and theta
  - Z*H, Z*->νν
  - WW fusion
- @250GeV
  - Inter. -0.61%
  - WW fusion 14.61%
  - ZH: 86.00%
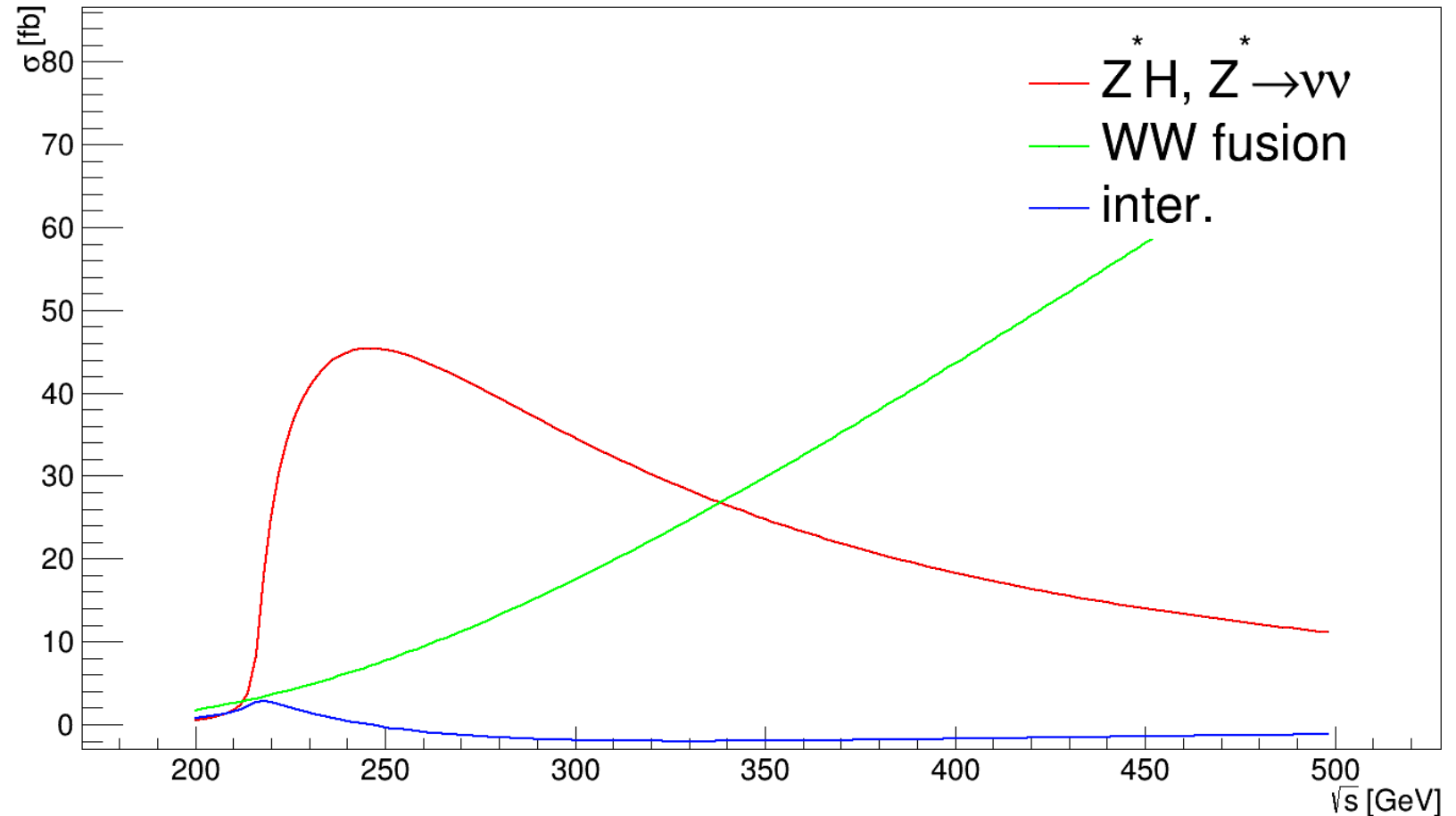
$\sigma(\nu\nu H)$ vs. $\sqrt{s}$

X-sections vs center of mass energy

- Total X-section by integrate out E and theta
  - Z*H, Z*->νν
  - WW fusion
- Alternative formulas of total X-section in compact form
  - WW fusion for X-section
  - ZH, Z->νν

σ(ννH) vs. √s