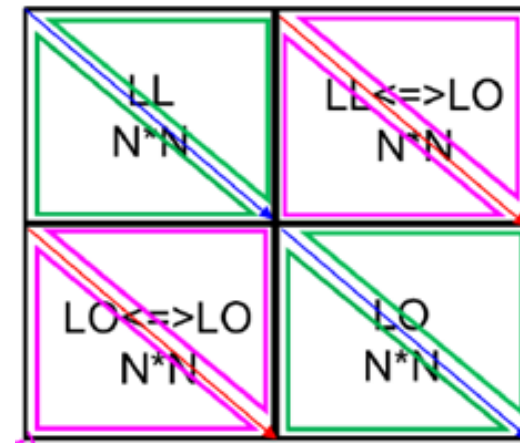


# To Do

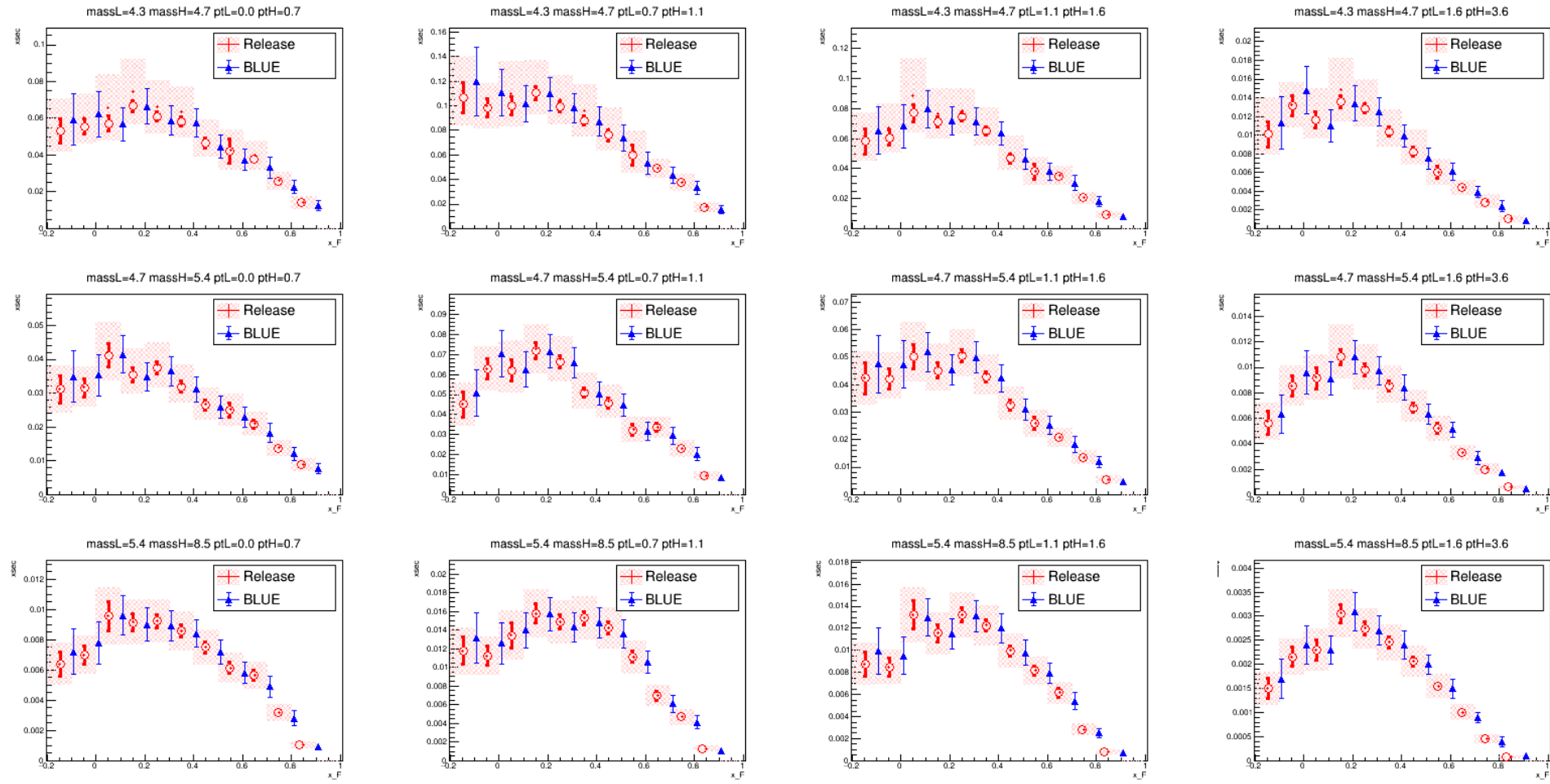
- How to define systematic of purity, acceptance, and trigger?
  - **Purity : Vincent will do bootstrapping and provide us the input files! Review purity extraction(pending)**
  - Acceptance(pending)
  - Trigger(pending)
- Correlation between different systematics
  - Trig VS Acc (pending)
  - Purity VS Acc (pending)
- BLUE, only sta error, input file update xsc w/ Vincent's input
  - Trigger  $\rho=1$
  - trigger systematic error same for LL and LO
- New binning for the convenience of integration (pending)
  - Combine at 2D and 1D level and compare.
- **Next meeting : April 23th (Thursday)**
- Check slides :  
[https://twiki.cern.ch/twiki/pub/Compass/Drell\\_Yan/Subgroupmeeting/Andrieux\\_20240123.pdf](https://twiki.cern.ch/twiki/pub/Compass/Drell_Yan/Subgroupmeeting/Andrieux_20240123.pdf)

# Correlations

- **C\_stat** :
    - Same bin, same trig : 1
    - others: 0
  - **C\_sys\_acc** (sys\_acc = 3\* MC\_stat)
    - Same bin, same trig : 1
    - others: 0
  - **C\_sys\_purity**
    - Same bin, same trig : 1
    - others = 0
  - **C\_sys\_trig** (W : 13%, AI : 5%, NH3 : 0%, etc)
    - Same bin, same trig : 1
    - others = 0
- trigSys\_LL = xscLL \* 13%**  
**trigSys\_LO = xscLO \* 13%**



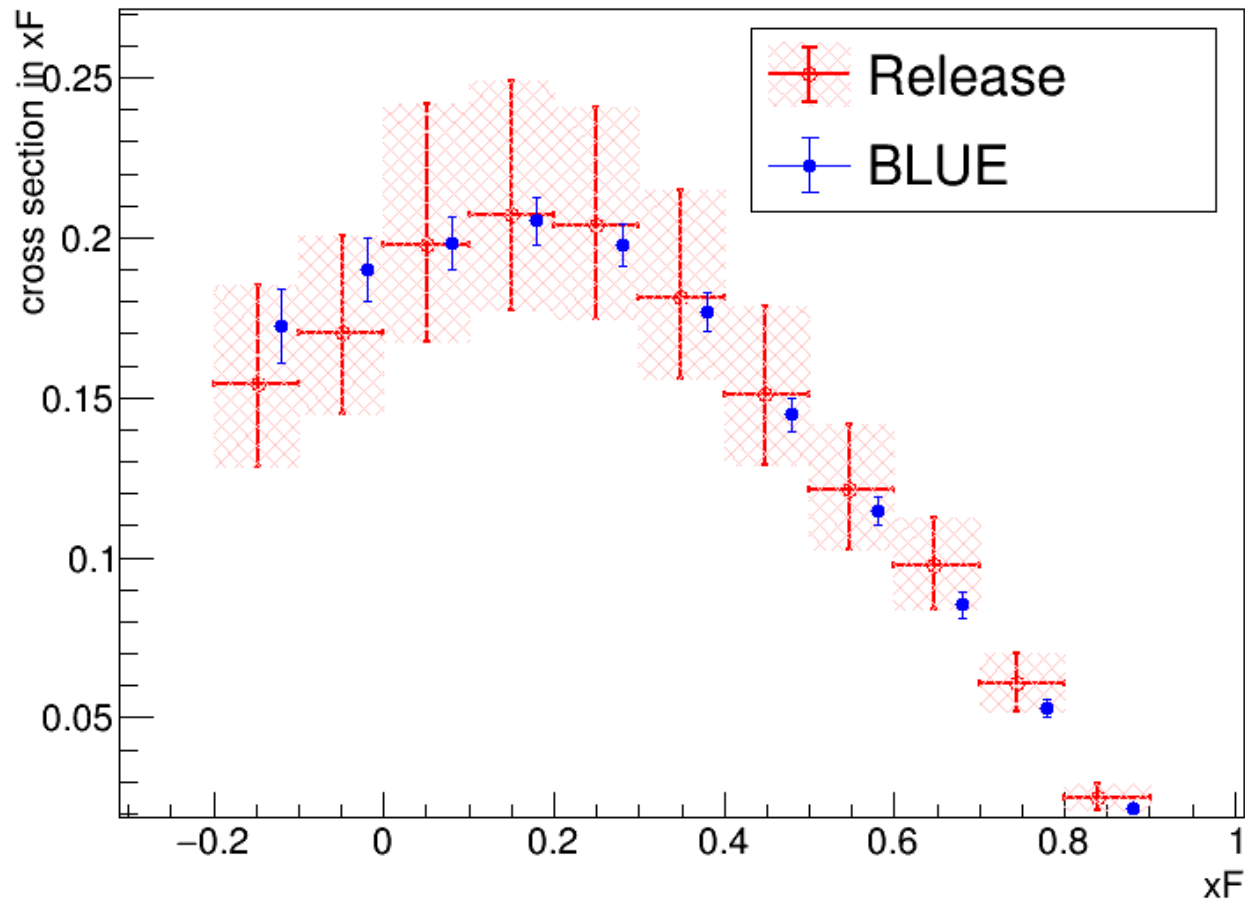
# Released VS BLUE in 3D w/o Corr



Reasonable



## Integrated Cross Section

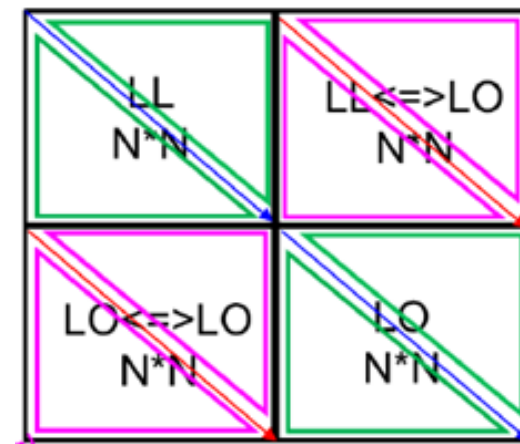


**BLUE integration is smaller than release**

# Correlations

- **C\_stat :**
  - Same bin, same trig : 1
  - others: 0
- **C\_sys\_acc** (sys\_acc = 3\* MC\_stat)
  - Same bin, same trig : 1
  - others: 0.8
- **C\_sys\_purity**
  - Same bin, same trig : 1
  - others = 0.8
- **C\_sys\_trig** (W : 13%, AI : 5%, NH3 : 0%, etc)
  - Same bin, same trig : 1
  - Same bin, different trigger : -1 => [0.8, 1.0]
  - Different bin, same trigger : 1 => [0.8, 1.0]
  - Different bin, different trigger : -1 => [0.8, 1.0]

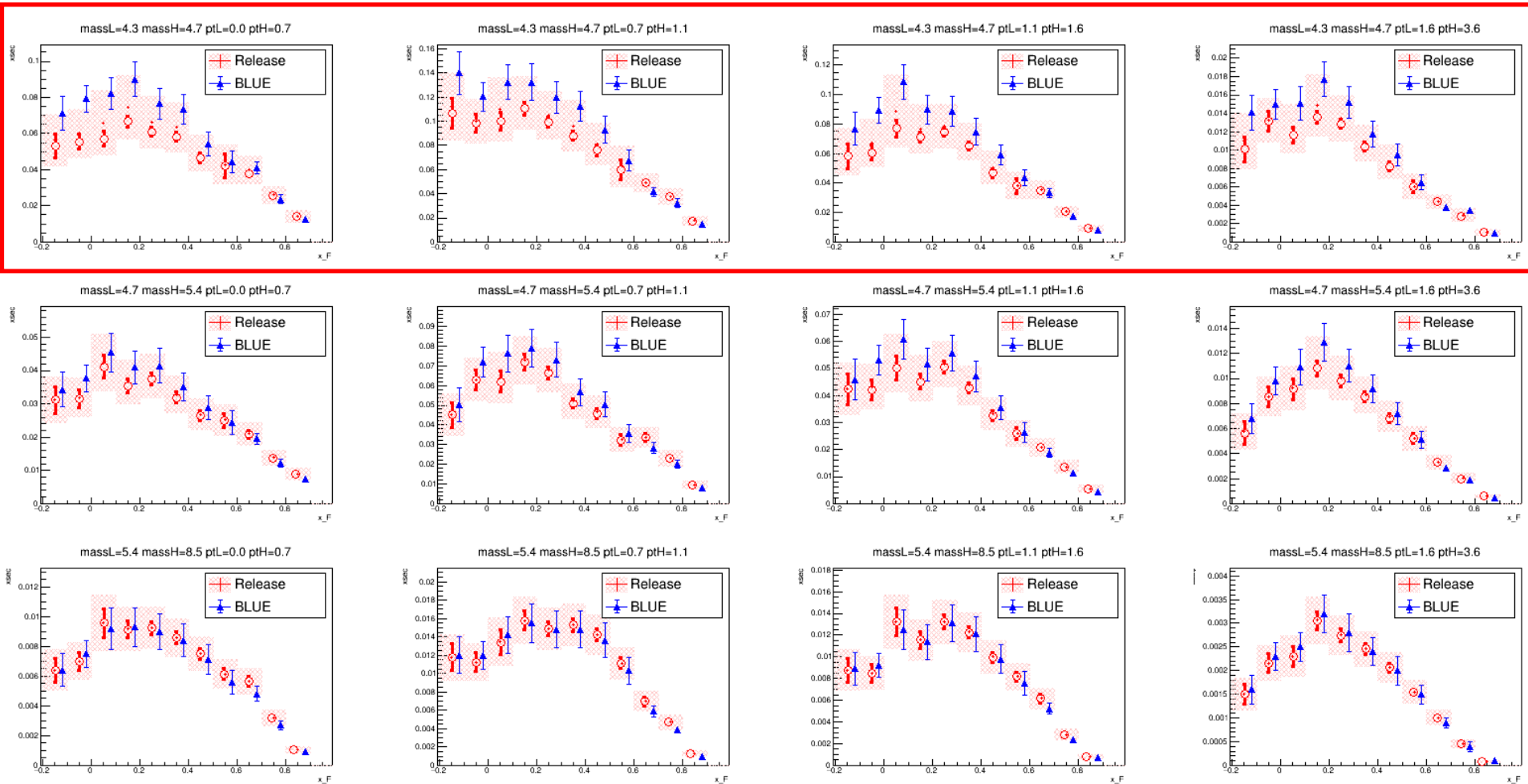
**trigSys = [(xscLL + xscLO)/2.0] \*13% => same for LL and LO**



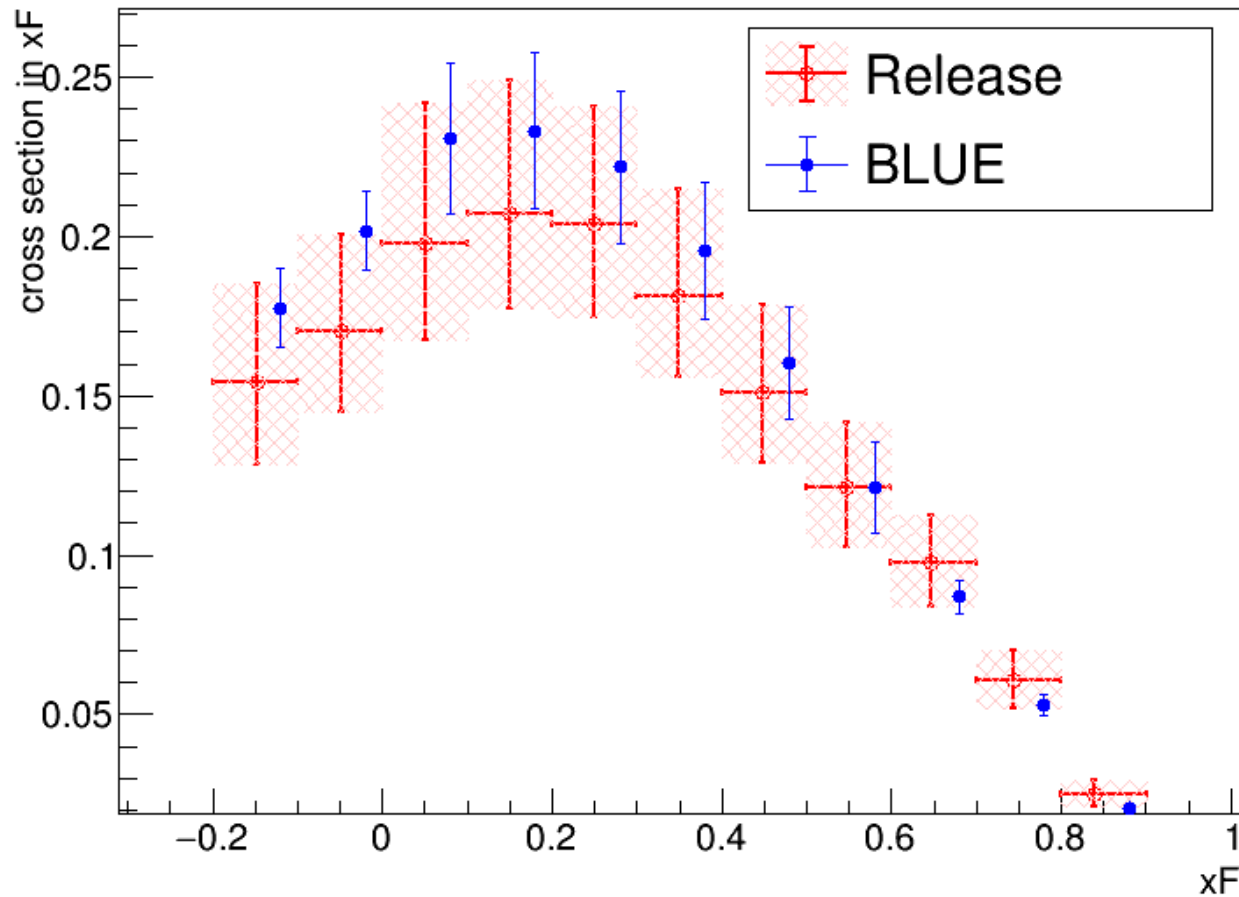
# Released VS BLUE in 3D w/ Corr

## Trigger $\rho = 0.8$

Mean of BLUE is much shifted towards to LL



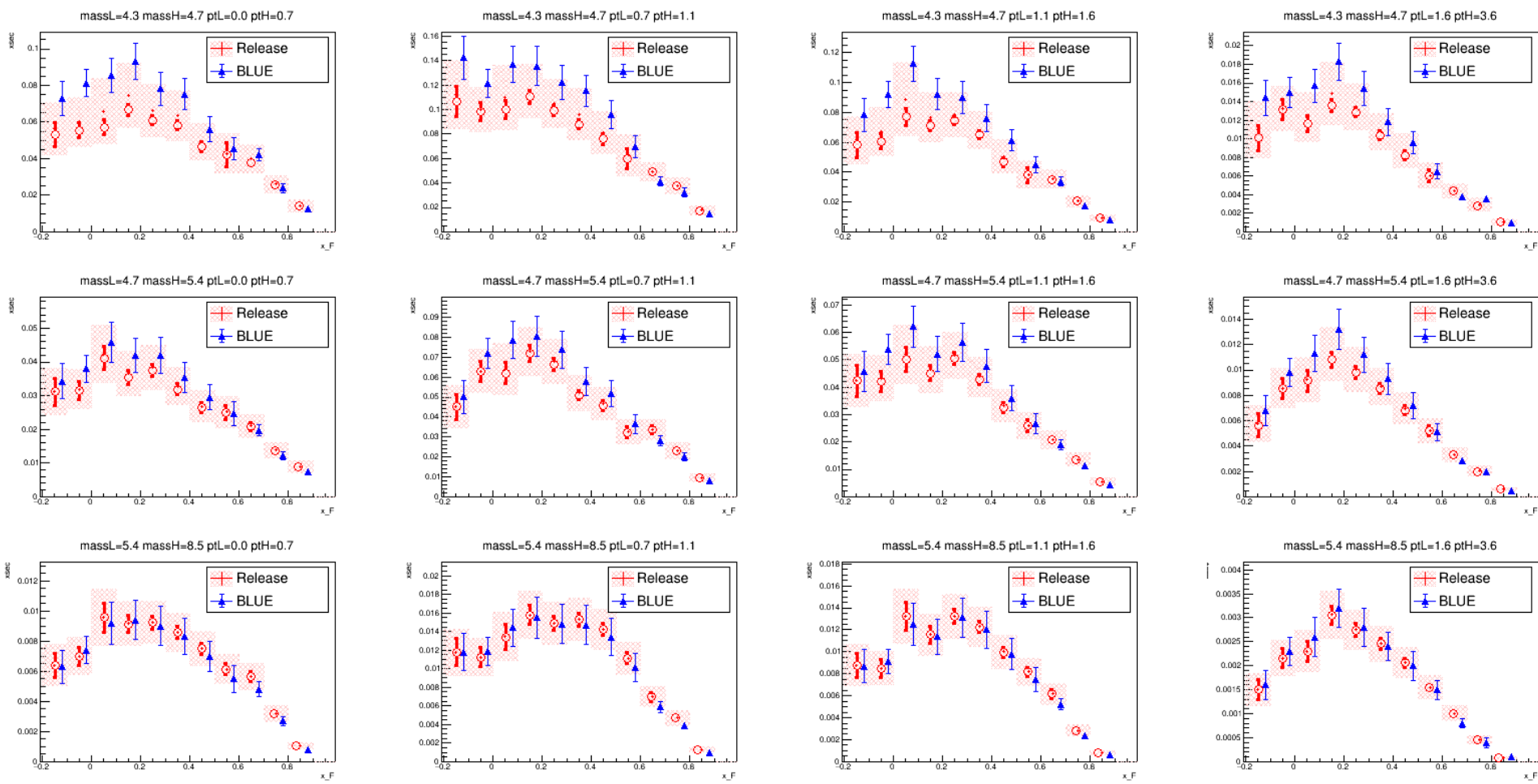
## Integrated Cross Section



**If we add correlation 0.8 for acc, purity, trigger, then systematic size between release and BLUE are more consistent. But the mean value are quite different.**

# Released VS BLUE in 3D w/ Corr

## Trigger $\rho = 1.0$



## Integrated Cross Section

