

Public release of CLAS12 performance and results

Demonstrate the detector is working properly and
the experiment is on track for a broad and timely physics outcome

- data MC comparison
- known particles (π^0 ...)
- basic dependencies (missing mass....)
- only (very) preliminary results

Collaboration among the analyzers:

- consistency of data selection (fiducial volume...)
- consistency of corrections (kinematic correction, background subtraction...)
- cross-check of yields and kinematic dependencies
- common MC productions

CLAS12 Performance: SIDIS π^0

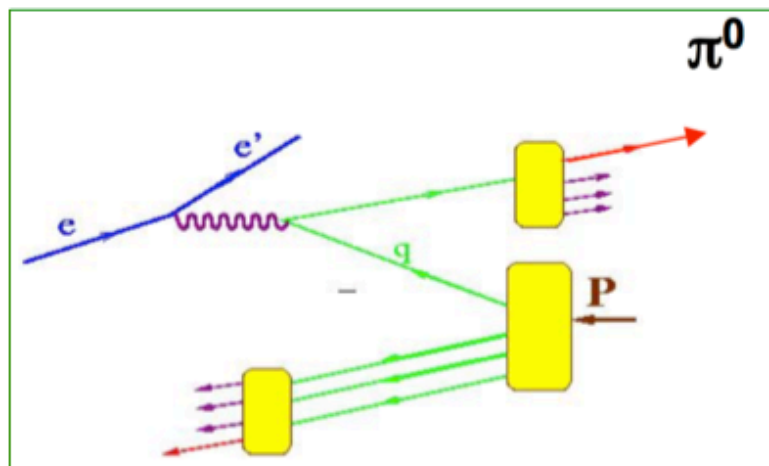
CLAS12

First SIDIS results $e'\pi^0X$

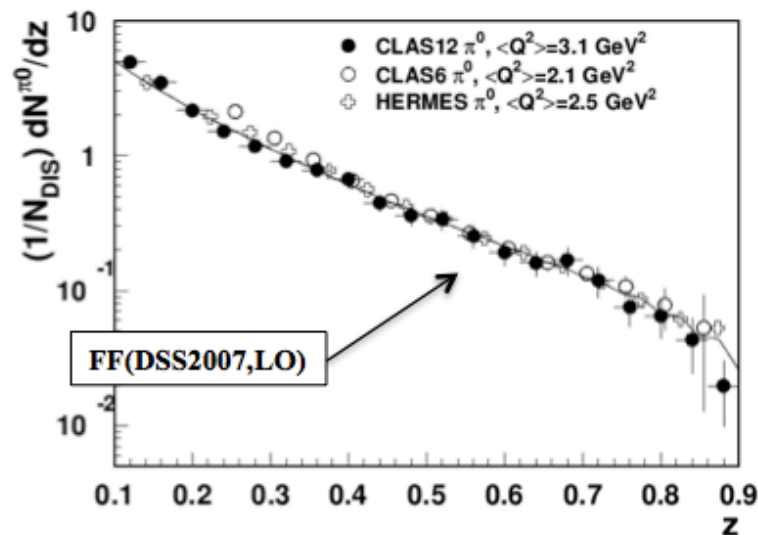
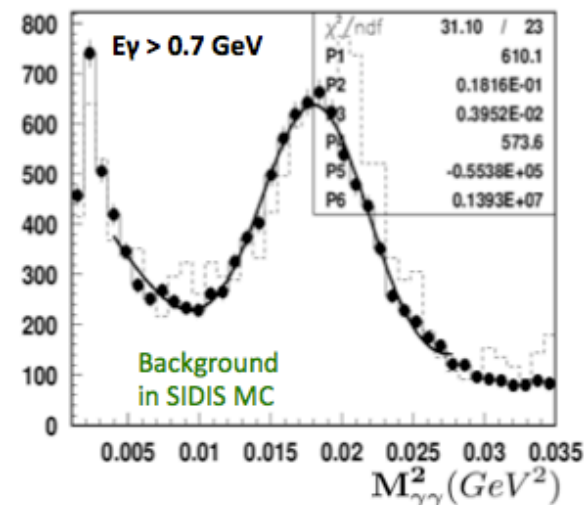


Extraction of $e'\pi^0X / e'X$ ratio (ratio of semi-inclusive π^0 to inclusive electron) requires good control over the acceptance of photons.

~0.5% of spring 10.6 GeV data.



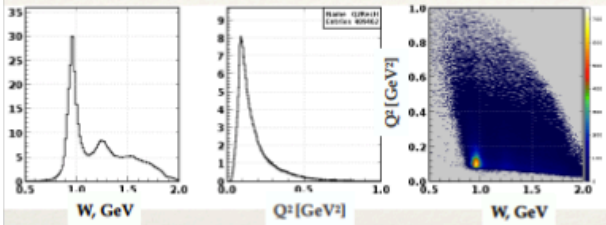
At large x , when sea contribution can be neglected $e'\pi^0X / e'X$ should follow the z -dependence of the fragmentation function (after integration over P_T)



CLAS12 Performance: Elastic

Simulation and data

Kinematics

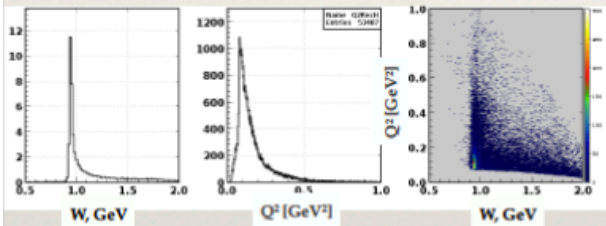


Data

Event generator:
elastgen (includes
radiative effect)

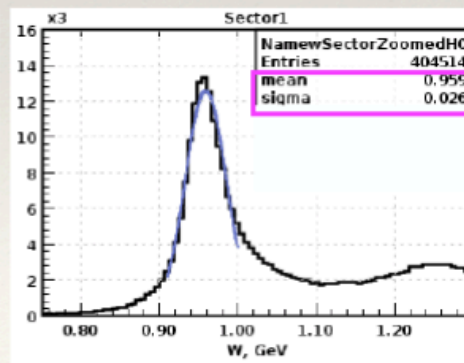
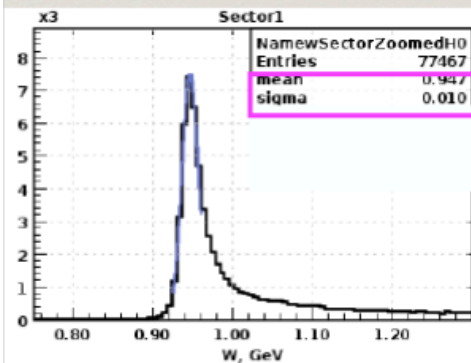
Run: 2476
Field scaling: T+0.6; S+0.6
Generator: elastgen
GEMC: 4a.2.3
Coatjava: 5b.4.0

Simulation



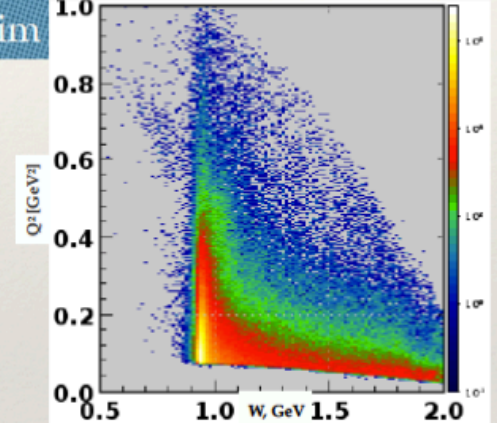
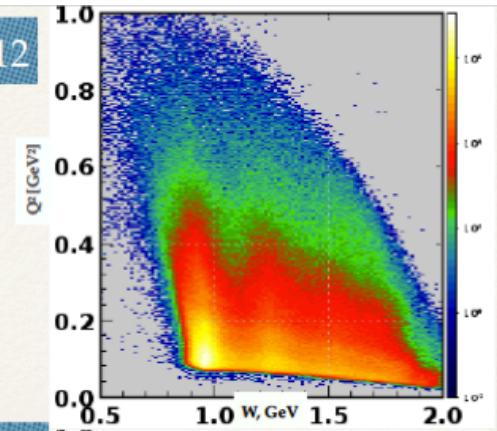
Simulation

Data



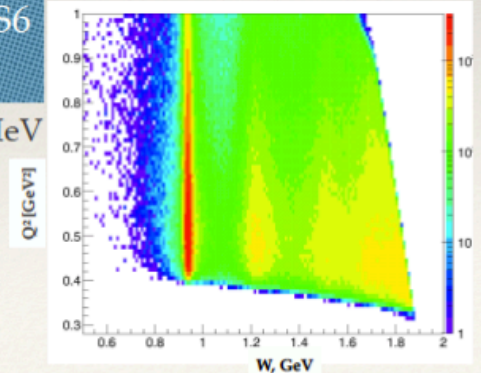
Data, CLAS12

Sim



Data, CLAS6
(ele)

$\sigma(e1e) = 10 \text{ MeV}$



CLAS12 Performance: Resonances

Normalized Yield in Sector 5 Compared to World Data

$\Delta W: 0.025 \text{ GeV}$

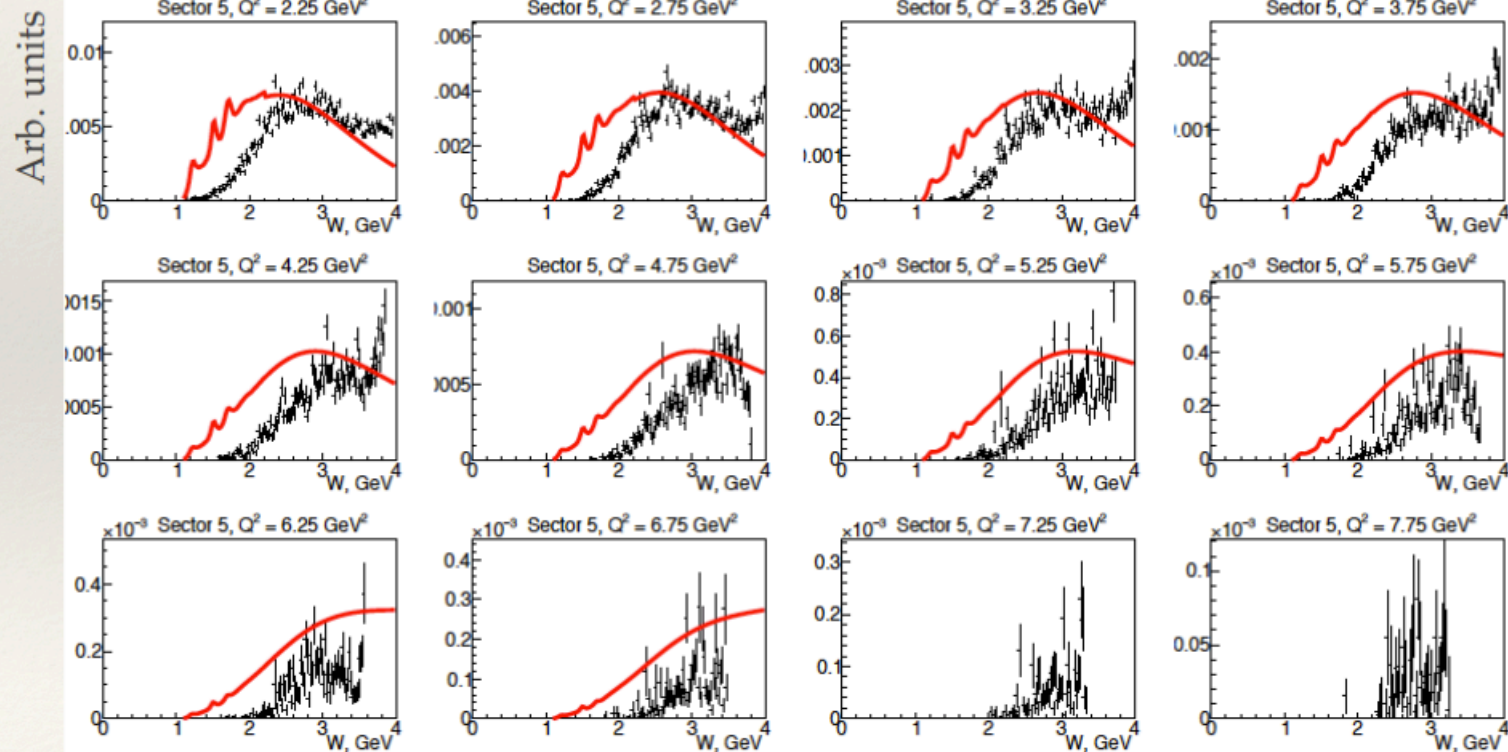
$\Delta Q^2: 0.5 \text{ GeV}^2$

Normalized data overlaid
with the fit to world data.

CLAS12

World data

<http://clas.sinp.msu.ru/stxfun-dev/> (V. Chesnokov)



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Significant sector by sector variation

Weekly meeting on Thursday (specific topics)

Few common WG meetings with the Analysis Review Committee

Dry runs in October 11/12

Review by DPWG and 1st-Experiment Analysis Review Committee

Account for ACE recommendations

Any requirement before production starts ?