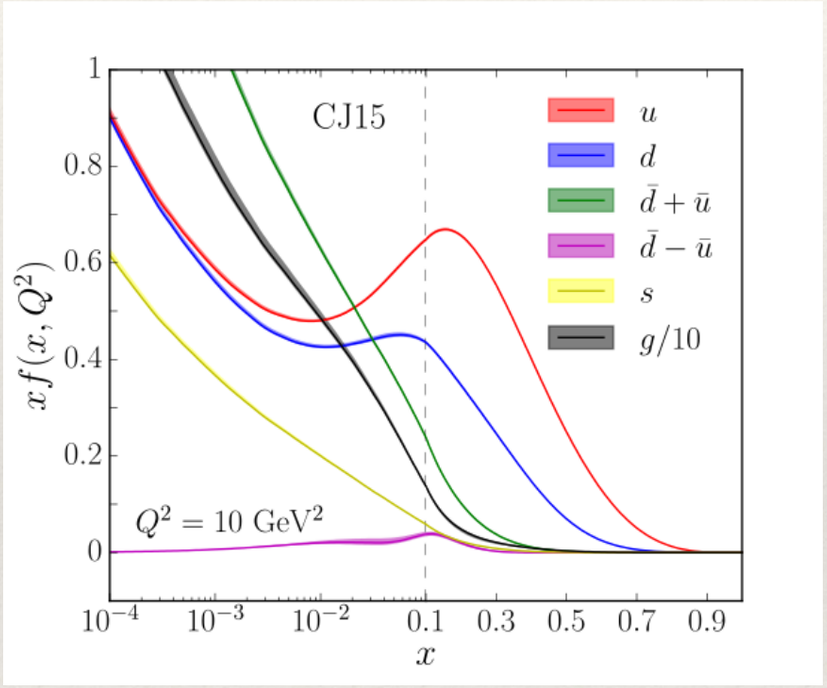
Motivation

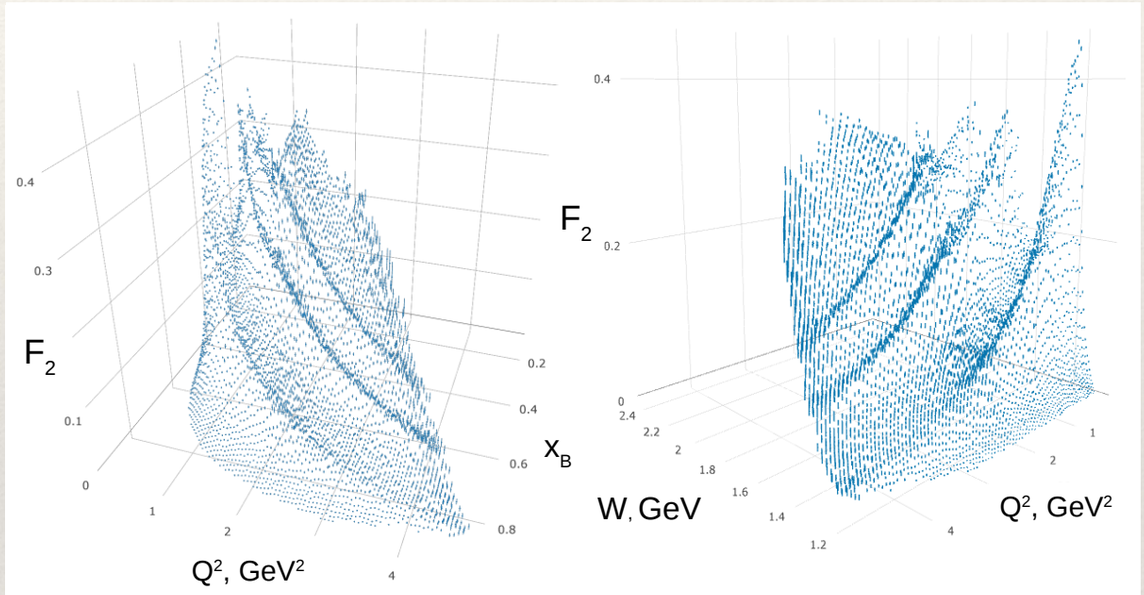
Inclusive structure function

Inclusive structure functions is a powerful tool to explore the ground state of the nucleon. Detailed measurements of the inclusive electron scattering allow us to map-out the parton distributions for all relevant quark flavors and gluons.
Knowledge of the resonant contributions from the CLAS results on gvpN* electrocouplings offers an access to the parton distributions at large x_B in the resonance region, critical for exploration of quark-hadron duality.

Bridge efforts between N* and DIS physics.

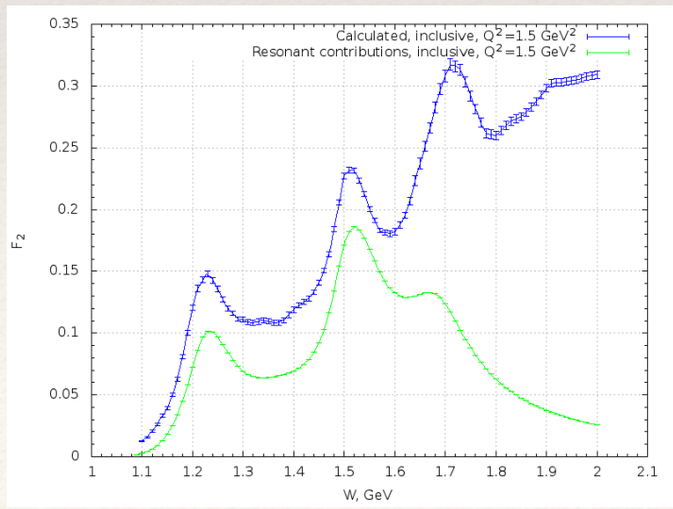
A. Accardi et al., PRD 93, 114017 (2016)





Osipenko et al. (CLAS Collaboration), Phys. Rev. D 67, 092001, 2003
Outside of kinematic coverage of the CLAS data P.Bosted parametrization, M.E. Christy and P.E. Bosted,

Resonance contribution into the inclusive structure function



A.N. Hiller Blin, JPAC at JLab/ Univ. of Mainz

UCONN

clas
CEBAF Large Acceptance Spectrometer

Current status and projection

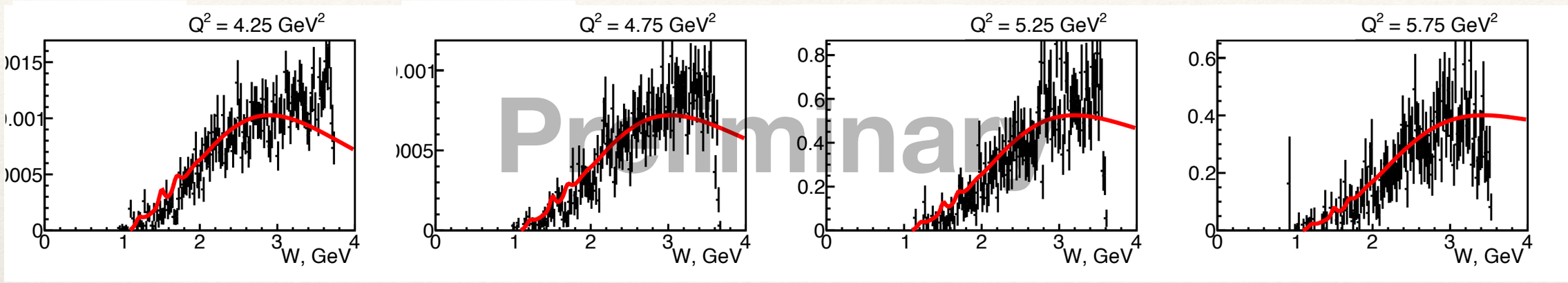
Data

CLAS12

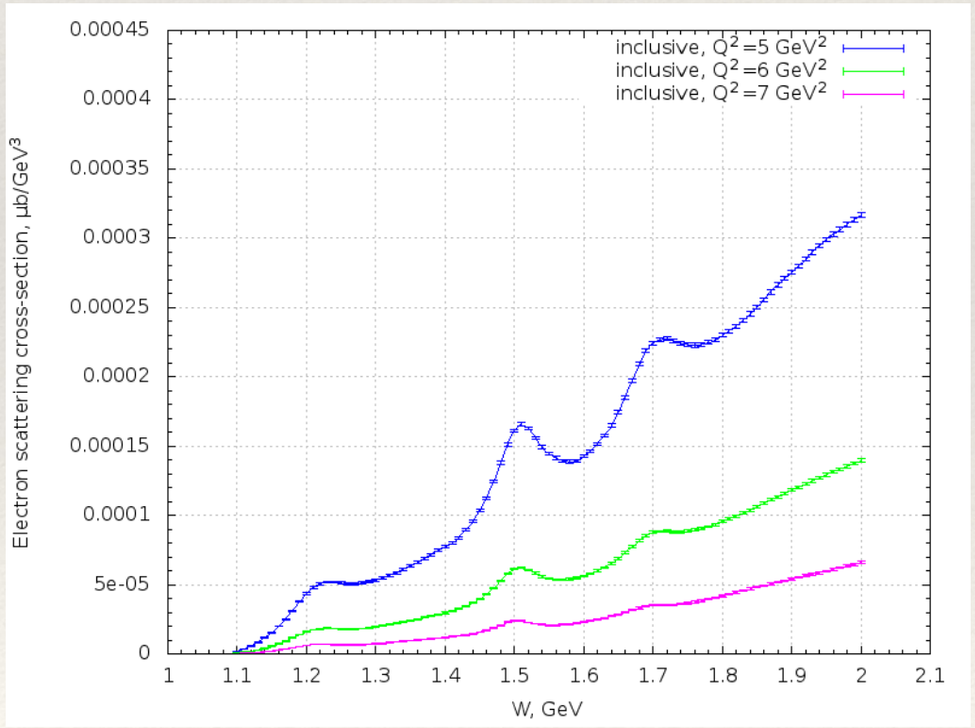
World data

Normalized data overlaid with the fit to world data.
http://clas.sinp.msu.ru/strfun-dev/
V.Chesnokov, SINP at Moscow State U.

$E_b = 10.6$ GeV



Projection



Integrated luminosity is12.8e10 μb^{-1}

$\Delta Q2 = 0.1$ GeV2
$\Delta W = 0.01$ GeV

Already collected data during the Spring Run from CLAS12 will allow to measure the inclusive cross section with the unprecedented statistical and systematical precision.

UCONN

CEBAF Large Acceptance Spectrometer