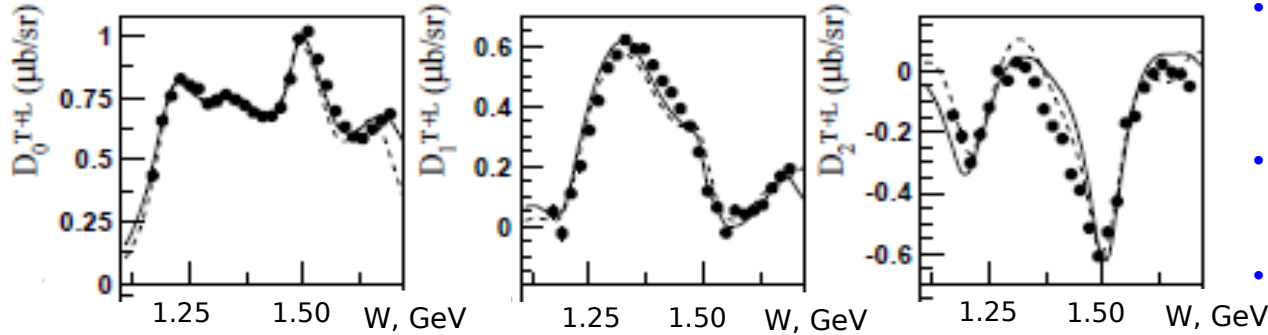


# Dressed Quark Mass Function from Exclusive Meson Electroproduction off Protons Data

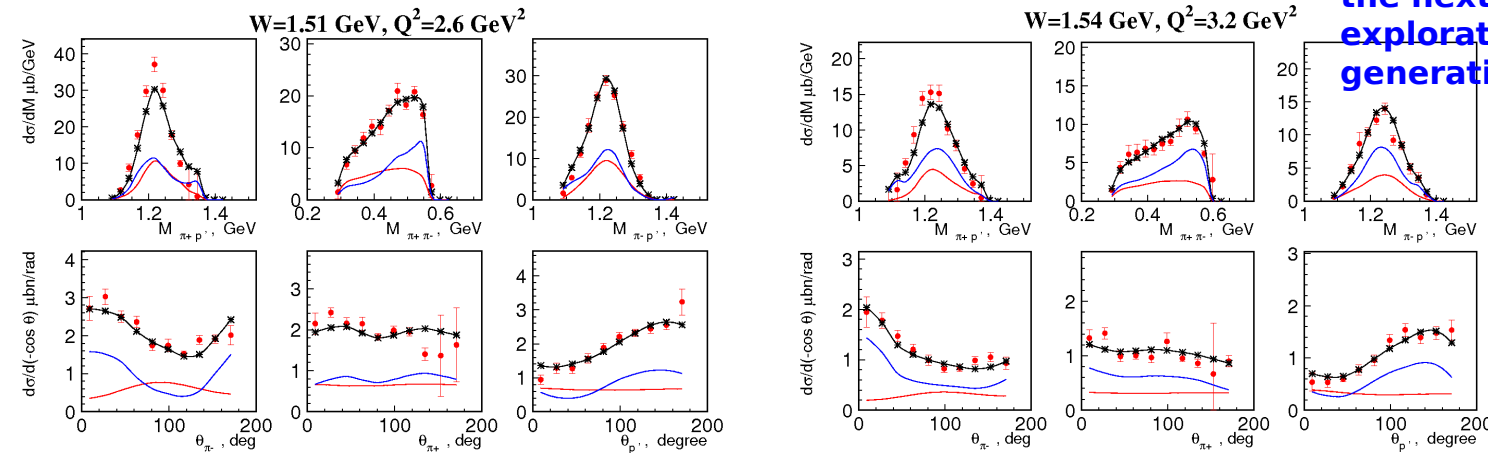


- $M(p)$  was mapped out to  $\Delta(1232)3/2^+$  and  $N(1440)1/2^+$  electrocouplings.
- Will be mapped out to  $\Delta(1600)3/2^+$  electrocoupling soon.
- DSE evaluations of  $N(1520)3/2^-$  and  $N(1535)1/2^-$  electrocouplings represent the next step needed for exploration of hadron mass generation

$\gamma_p \rightarrow \pi^+ n$  cross sections at  $Q^2 = 2.44 \text{ GeV}^2$

$\gamma_p \rightarrow \pi^+ \pi^- p$

— Resonant contributions  
— Non-resonant contributions



- The observables of  $N\pi$  and  $\pi^+\pi^-p$  exclusive channels at  $W < 1.55 \text{ GeV}$  and  $2.0 \text{ GeV}^2 < Q^2 < 5.0 \text{ GeV}^2$  will be computed with electrocouplings of four relevant  $\Delta(1232)3/2^+$ ,  $N(1440)1/2^+$ ,  $N(1520)3/2^-$ , and  $N(1535)1/2^-$  resonances obtained within DSE by employing a common dressed quark mass function. Mass function parameters will be fit to the data.



- Insight to the dressed quark mass function from the  $N\pi$  and  $\pi^+\pi^-p$  electroproduction observables. The correlations between different resonance electrocouplings imposed by the common quark mass function will be checked against the data for the first time. Successful data description will unambiguously validate credible access to the quark function.

# Electrocouplings In EHM Exploration in Meson Sector

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## Understanding dual nature of the pion as qq-bar bound system and Goldstone CSB-boson

- Would it be possible by employing the dressed quark mass function mapped out to  $\gamma vpN^*$  electrocouplings to improve knowledge on attractive qq-bar interaction in pion and explore how this interaction reduce the sum of two fully dressed quark masses of  $\sim 400$  MeV down to physic pion mass of  $\sim 140$  MeV ?

## Flavor dependence of the dressed quark mass generation

- Can implementation of u-quark dressed quark mass mapped out to  $\gamma vpN^*$  electrocouplings improve the knowledge on s-quark mass function from the data on kaon elastic form factors and PDF.