

Neutrino Nucleon interaction in resonance region

Toru Sato Osaka University / JPARC branch of KEK Theory Center

- meson production in N^* Region at high Q^2 (RES vs DIS)

test model of axial vector induced meson production
duality in axial vector current?

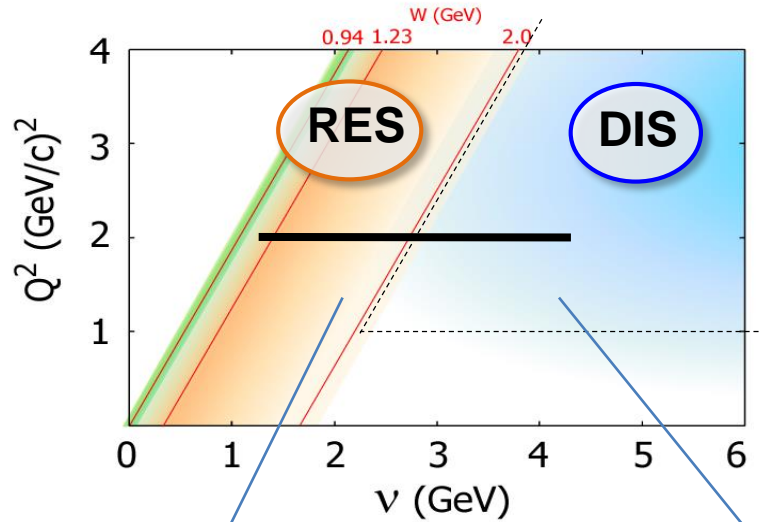
- FSI in ν -d reaction (1 π production around $\Delta(1232)$)

explore effects of FSI(one-loop) for wide kinematical region

FSI important (unimportant) to extract 1 π cross section of
nucleon from ANL/BNL deuteron data?

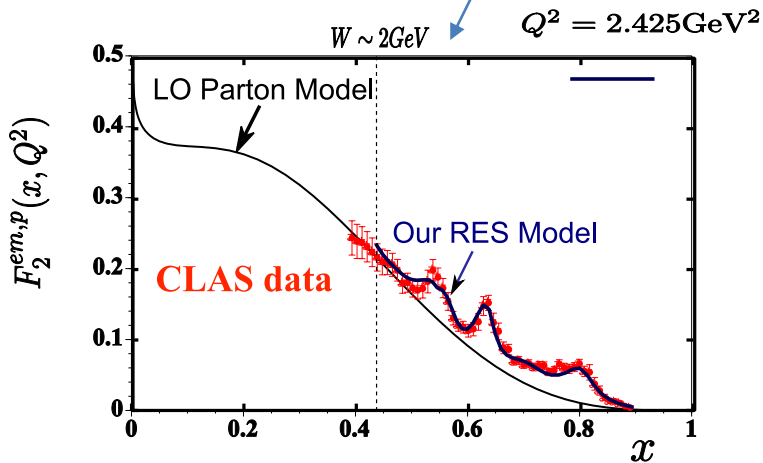
- Set web page to provide amplitudes of meson production CC,NC

Matching with parton picture around DIS region



Vector current

Axial vector current



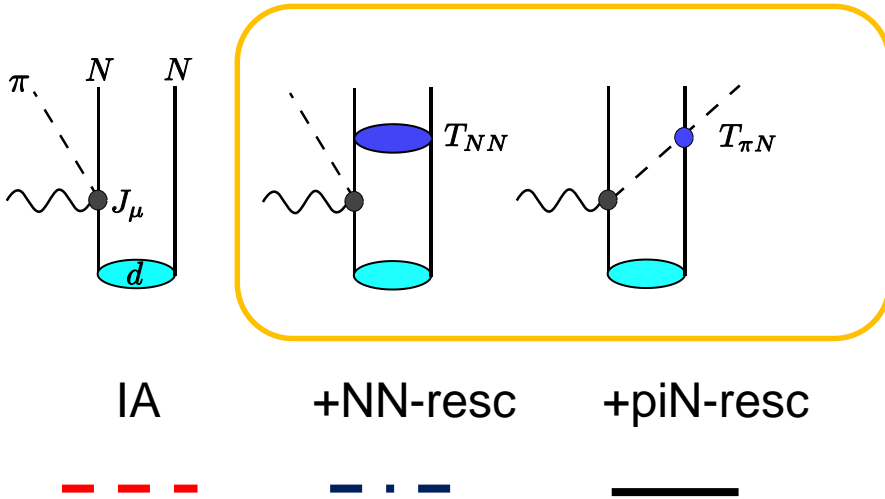
F2 of electromagnetic current

?

Working now

F2, F3 of CC, NC

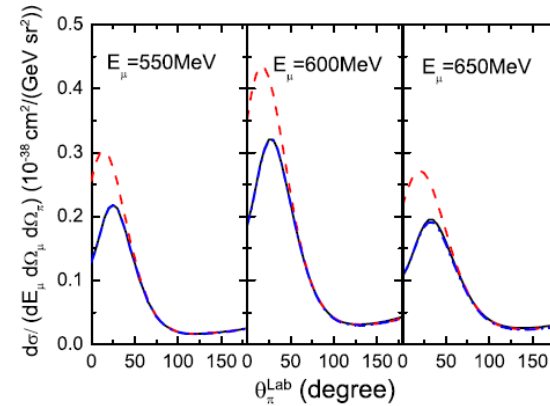
FSI (one-loop) in nu-d reaction



Need to explore full phase space

Nu-d ($E_{\nu}=1\text{GeV}$, $\theta_{\mu}=25\text{deg}$)

$$\nu_{\mu}d \rightarrow \mu^{-}\pi^{+}pn$$



$$\nu_{\mu}d \rightarrow \mu^{-}\pi^{0}pp$$

