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π^-/π^+ Ratios of Separated Response Functions in Forward Pion Electroproduction CORNEL BUTUCEANU, University of Regina, SK, CANADA — The first complete separation of the four unpolarized electromagnetic response functions above the dominant resonances has been made for forward, exclusive $\pi^\pm$ electroproduction on the nucleon in the $Q^2 = 0.6 - 2.45$ (GeV/c)^2 range. The separated ratio $R_L = \sigma_L^{\pi^-}/\sigma_L^{\pi^+}$ is sensitive to isoscalar contamination to the dominant isovector pion exchange amplitude, which is the basis for the determination of the charged pion form factor, $F_\pi(Q^2)$ from electroproduction data. The value of this ratio may also have implications for constraining polarized GPD's with ratios of longitudinal observables. At large $-t$, a separate ratio $R_T = \sigma_T^{\pi^-}/\sigma_T^{\pi^+} \simeq 1/4$ would suggest a transition between pion and quark knockout mechanisms. Preliminary results on the separate ratios R_L and R_T indicate a dominance of the pion pole diagram at low -t. The results will be compared with a variety of models such as the VGL model.

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