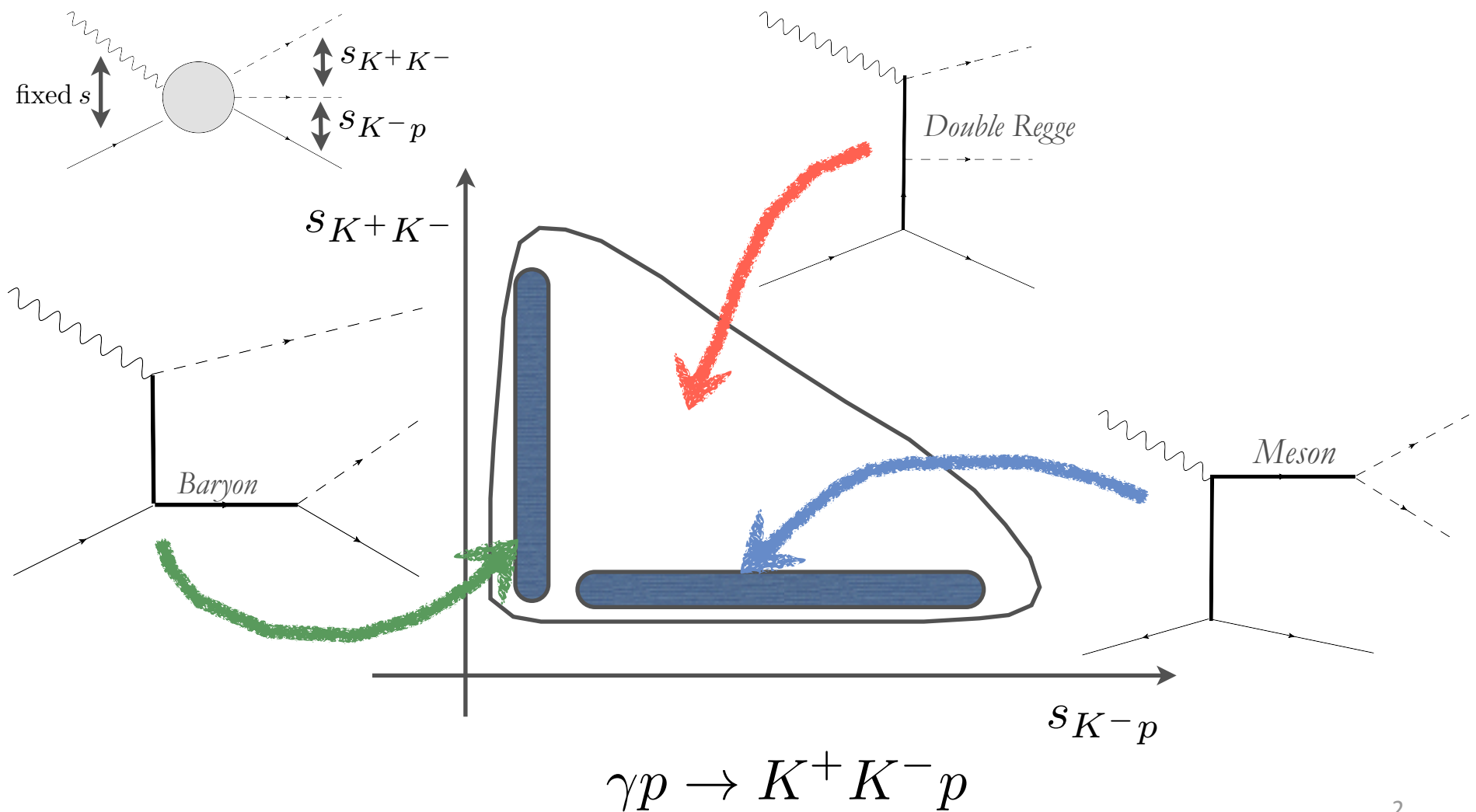


TWO KAON PHOTOPRODUCTION STATUS REPORT: APRIL 18, 2014

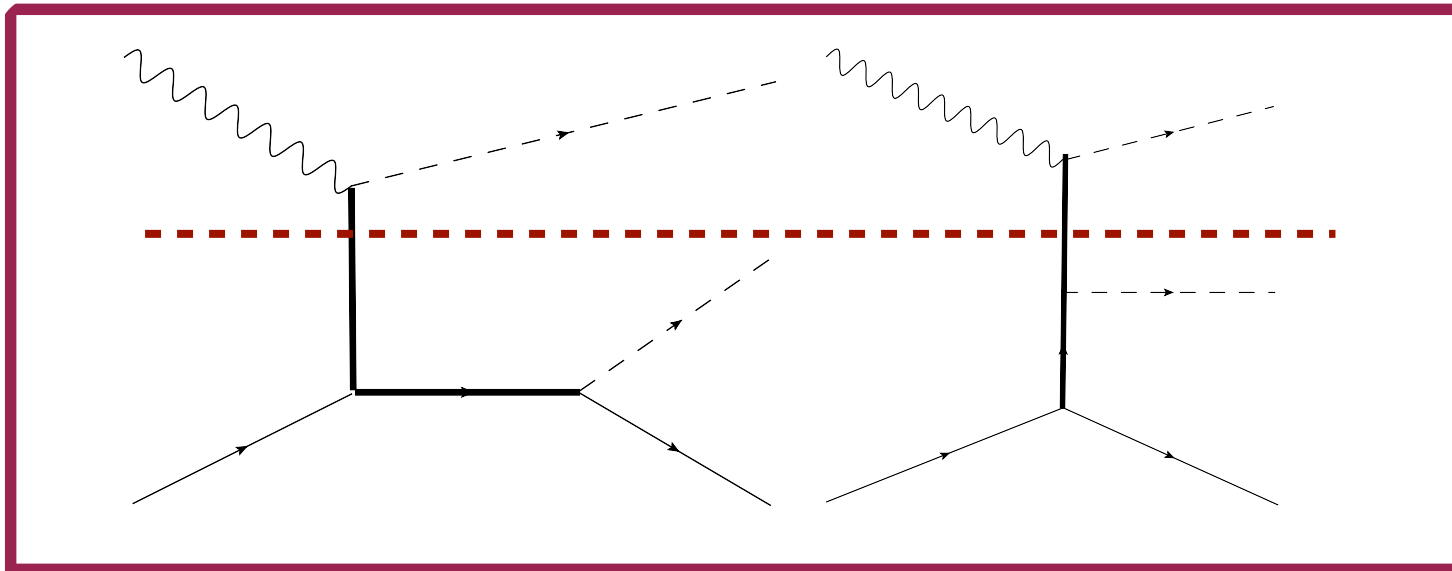
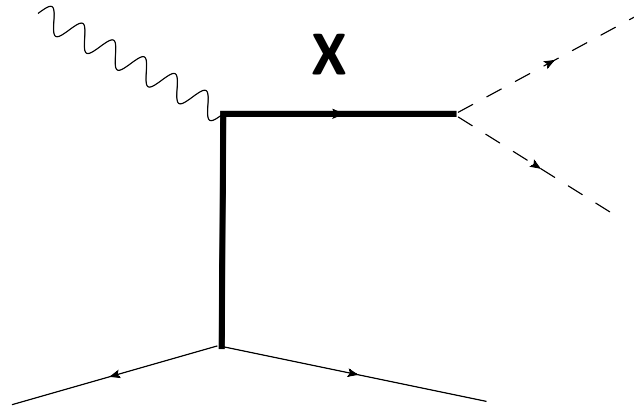
JPA

K⁺K⁻P DALITZ PLOT

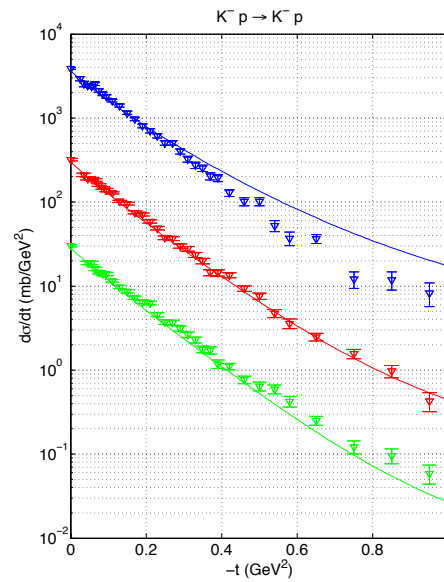
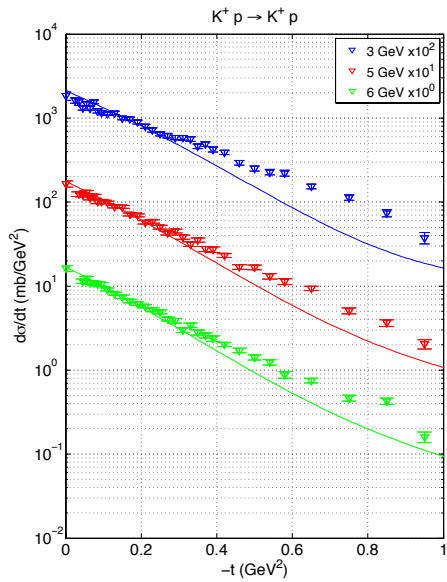
ARTISTIC(?) REPRESENTATION



DECK MODEL: ONE STEP AT A TIME



KN → KN: HIGH-ENERGY REGION

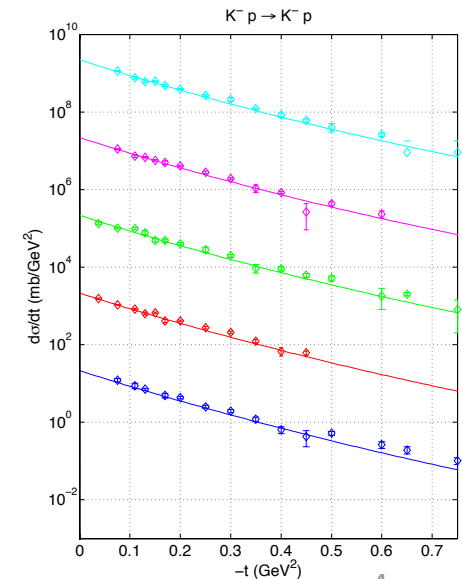
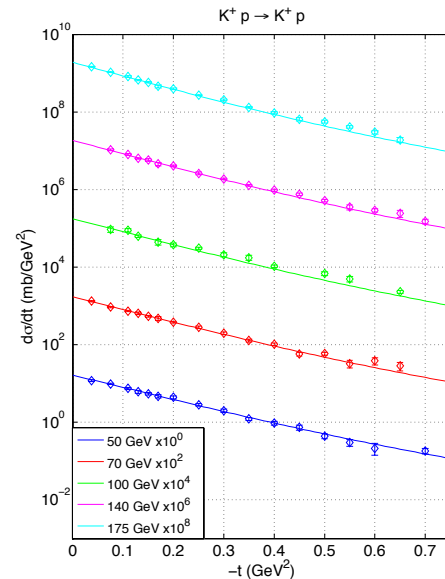


Regge exchange
 ρ , ω , a , f , Pomeron
 Mathieu, Szczepaniak (in preparation)

$$T_{++}^s = \cos \frac{\theta}{2} [2mA + (s - m^2 - \mu^2) B]$$

$$T_{+-}^s = -\sin \frac{\theta}{2} [(s + m^2 - \mu^2) A + (s - m^2 + \mu^2) mB] / \sqrt{s}$$

A and B are free of kinematical singularities



KN → KN: RESONANCE REGION

Coupled-channels Unitary model

KN, πΣ, πΛ, ηΛ, ηΣ, K*₁N, K*₃N, KΔ, πΣ(1385), πΛ(1520)

34 resonances

Manley et al. PRC88, 035204 (2013)

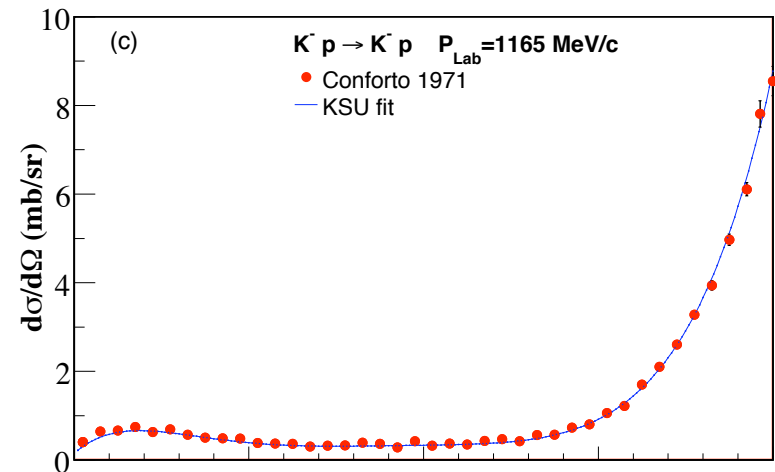
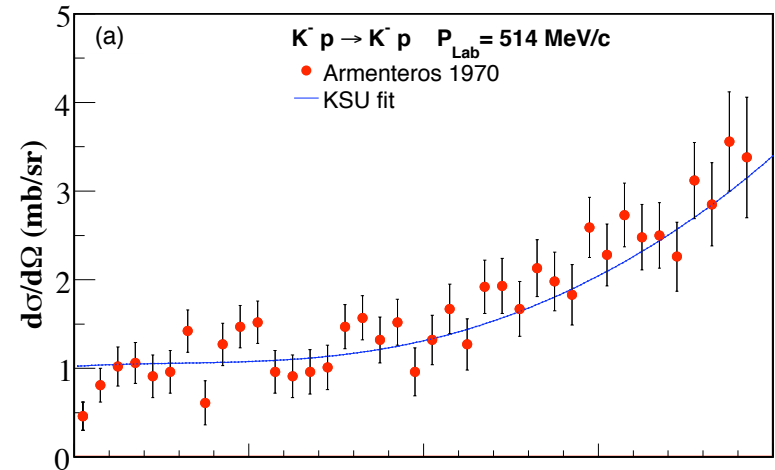
Partial waves: S₀₁, P₀₁, P₀₃, D₀₃, D₀₅, F₀₅, F₀₇, G₀₇

S₁₁, P₁₁, P₁₃, D₁₃, D₁₅, F₁₅, F₁₇, G₁₇

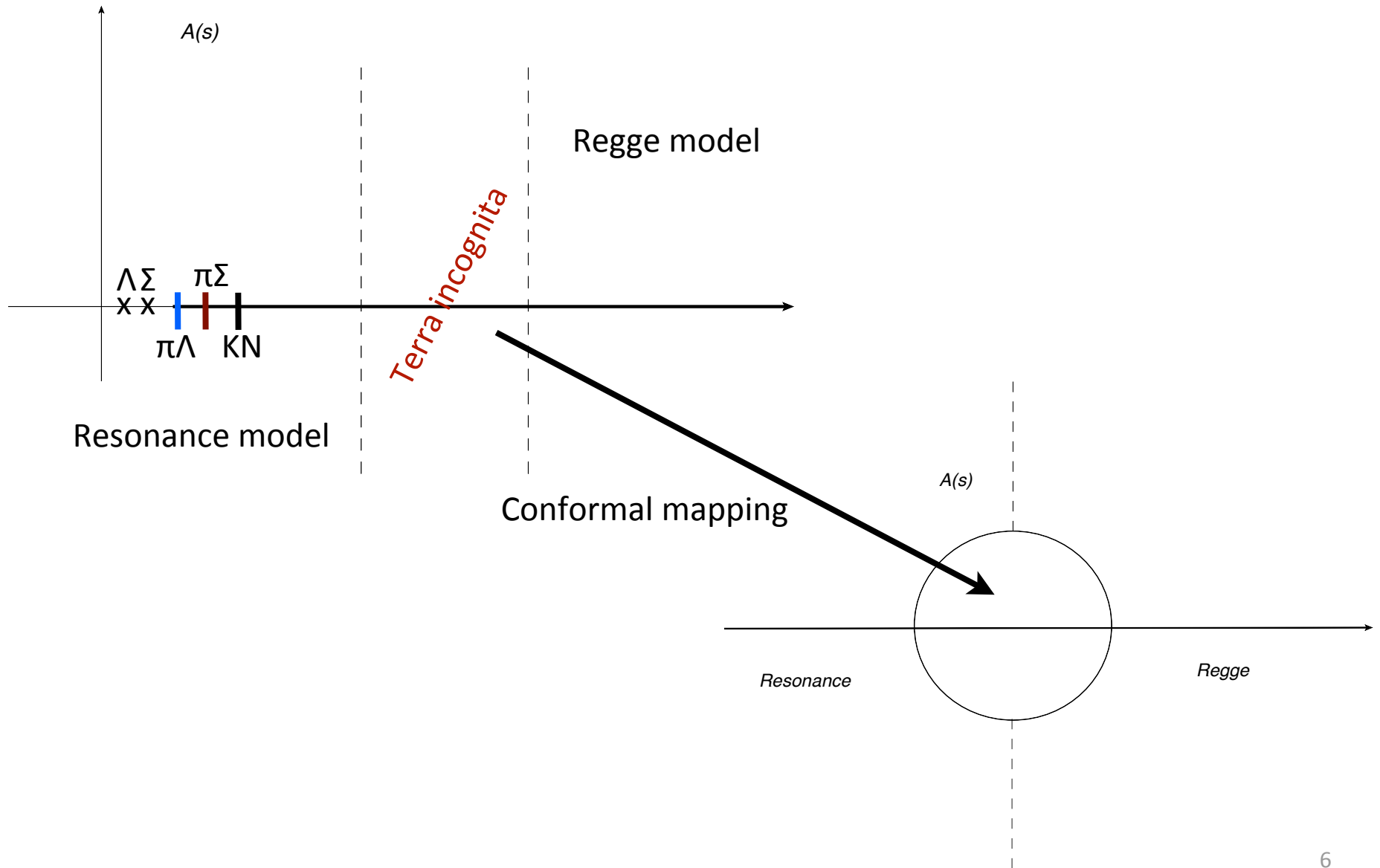
$$f = \frac{1}{q} \sum_{\ell=0}^{\infty} [(\ell + 1) f_{\ell+} + \ell f_{\ell-}] P_{\ell}(z)$$

$$g = \frac{1}{q} \sum_{\ell=1}^{\infty} [f_{\ell+} - f_{\ell-}] P_{\ell}^1(z)$$

$$T = \bar{u} \left[A + \frac{1}{2} (q_1 + q_2)^{\mu} \gamma_{\mu} B \right] u$$



CONNECTING RES & HE



STATUS

- Regge model (VM)
- Implementing Manley's model with modifications to have the right analytical properties (CFR): some numerical issues found
- Finite Sum rules for meson-baryon scattering (MD, CFR, VM, RW)