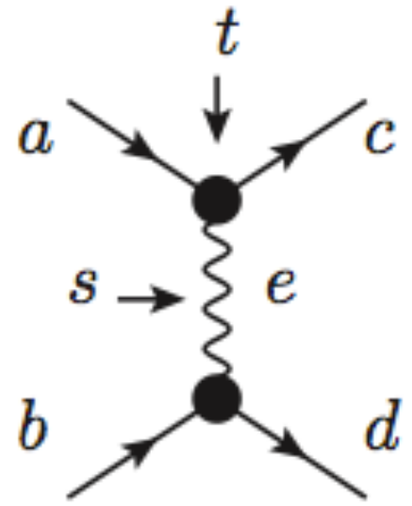
Regge Parametrization

$$A^R(\nu,t) = \beta(t)\frac{1-e^{-i\pi\alpha(t)}}{\sin\pi\alpha(t)}\nu^{\alpha(t)}$$

$$\lim_{\alpha\to 2n} A^R(\nu,t) = i\beta\nu^{2n}$$

$$\lim_{\alpha\to 2n+1} A^R(\nu,t) = -\beta\frac{2}{\pi}\frac{\nu^{2n+1}}{\alpha-(2n+1)}$$



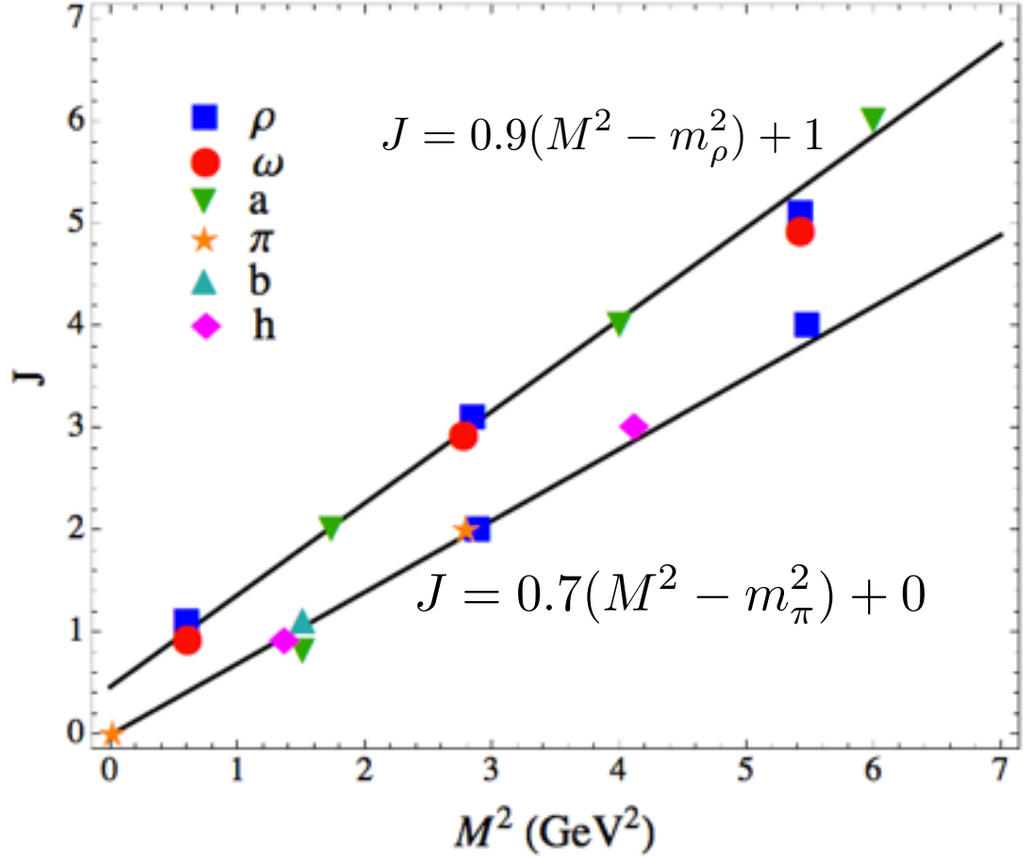
exchange of particle with spin 1,3,5,…

Pole for $\alpha = 1, 3, \ldots$

problem for $\alpha = -1, -3, \ldots$

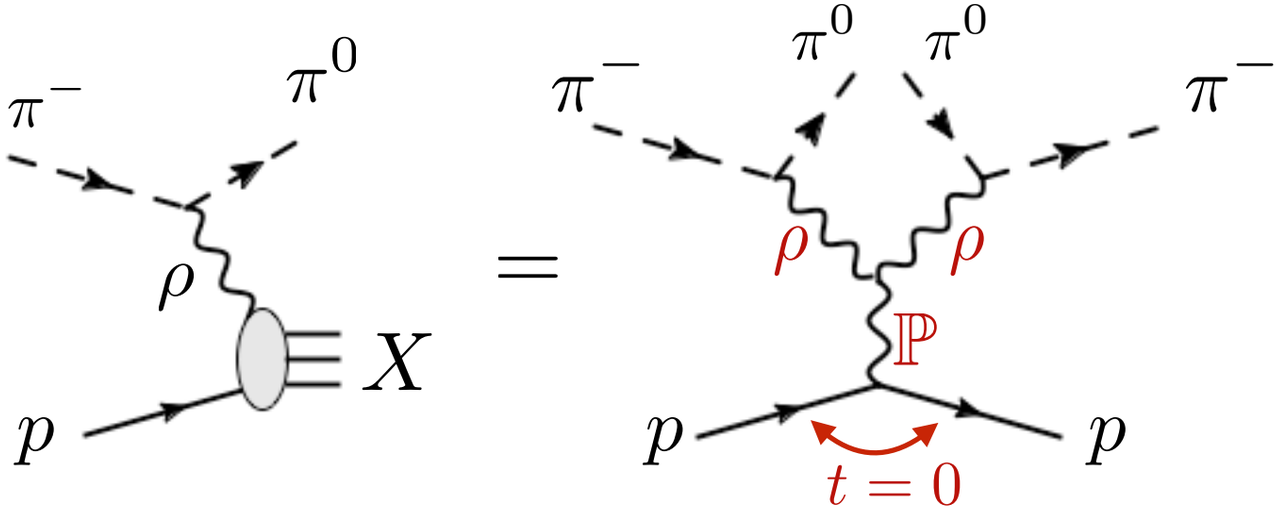
$$\beta \propto (\alpha+1)(\alpha+3)\ldots$$

$$\propto \frac{1}{\Gamma(\alpha)} \propto \alpha(\alpha+1)(\alpha+2)\ldots$$



Regge Trajectory

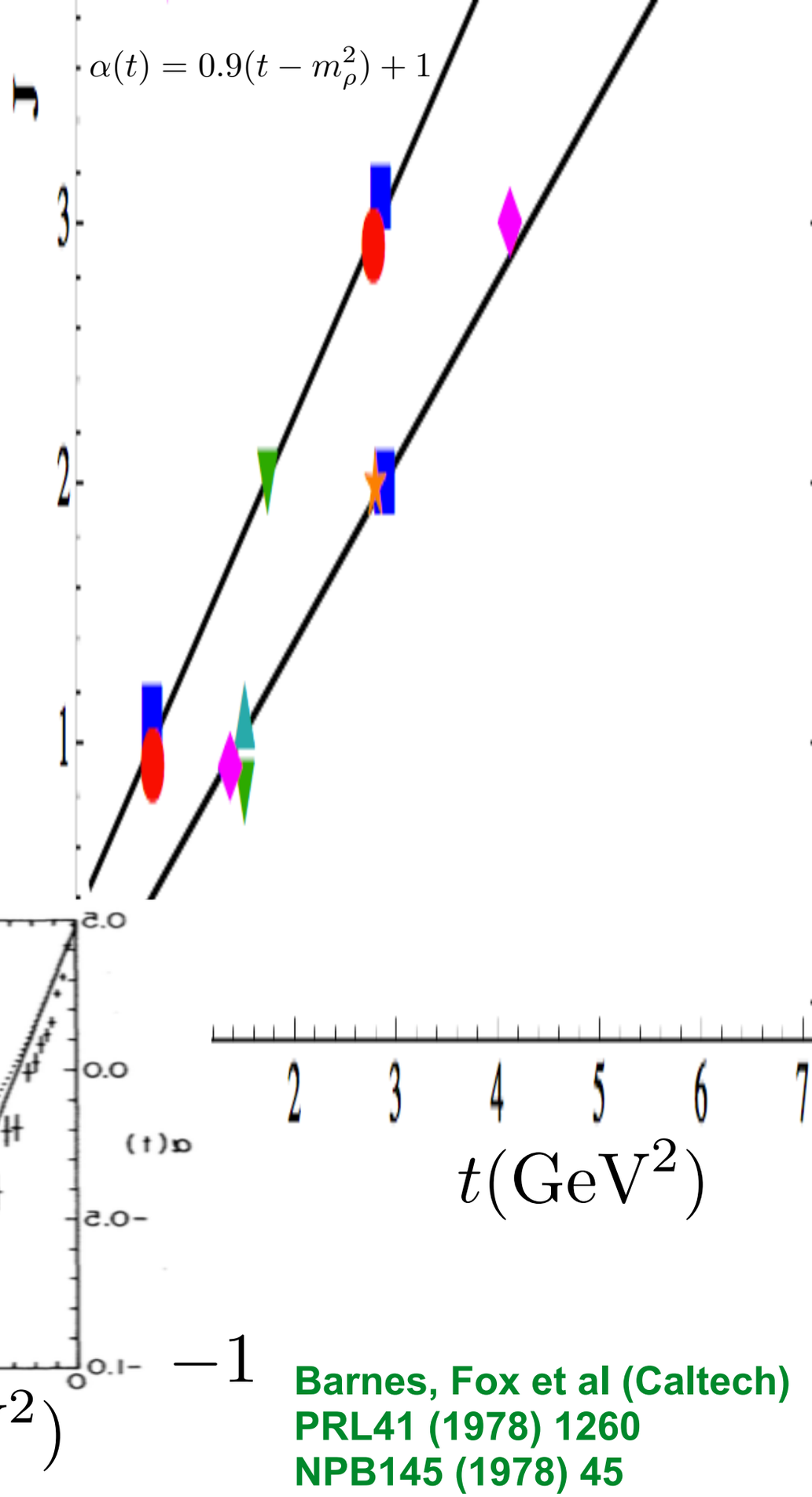
Study at high energy of $\pi^- p \to \pi^0 X$

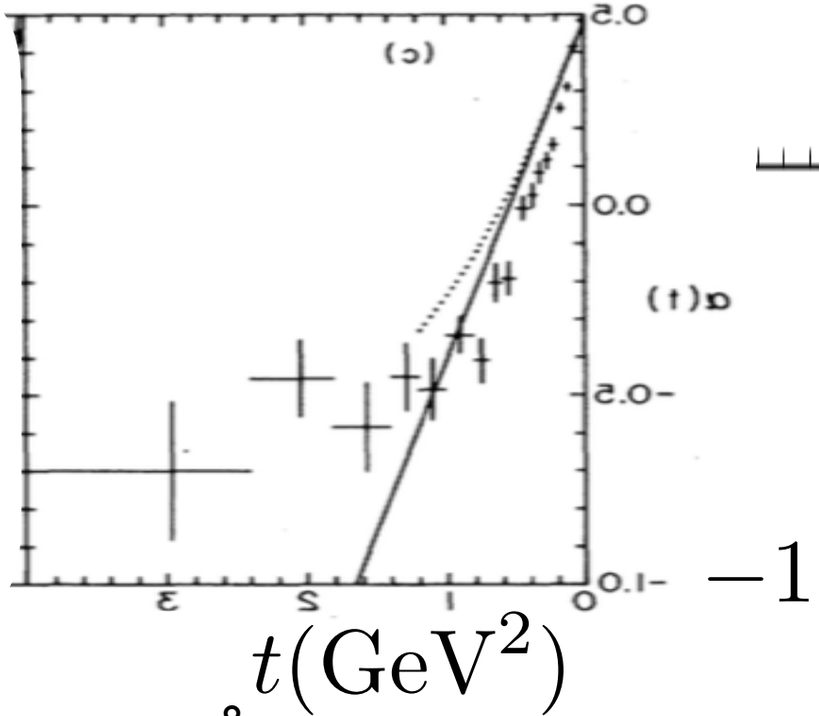


$$\frac{d\sigma}{dtdx} \propto (1-x)^{\alpha_{\mathbb{P}}(0)-2\alpha_\rho(t)}$$

Regge trajectory saturates at -1 at large negative t !

No need for $\beta \propto \frac{1}{\Gamma(\alpha)}$





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Barnes, Fox et al (Caltech)
PRL41 (1978) 1260
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