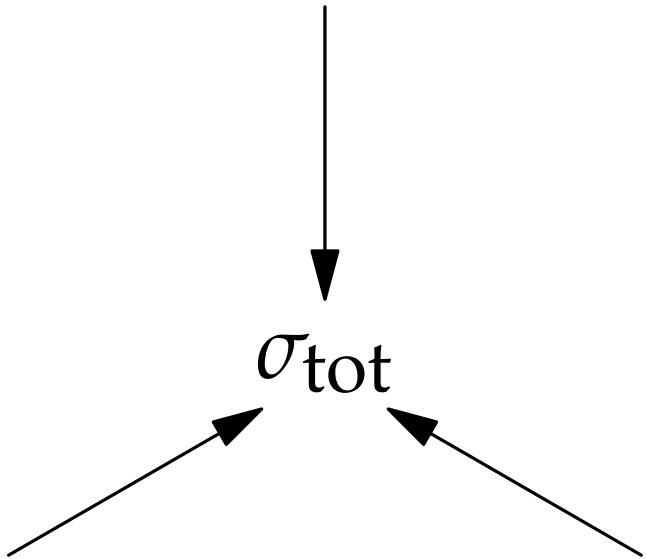
elastic observables only:

$$\sigma_{\text{tot}}^2 = \frac{16\pi}{1+\varrho^2}\,\frac{1}{\mathcal{L}}\,\left.\frac{\mathrm{d}N_{\text{el}}}{\mathrm{d}t}\right|_0$$



σ_{tot}

ϱ-independent:

$$\sigma_{\text{tot}} = \frac{1}{\mathcal{L}}\,(N_{\text{el}} + N_{\text{inel}})$$

luminosity-independent:

$$\sigma_{\text{tot}} = \frac{16\pi}{1+\varrho^2}\,\frac{\mathrm{d}N_{\text{el}}/\mathrm{d}t|_0}{N_{\text{el}} + N_{\text{inel}}}$$