e.g. singular isothermal sphere

Def^n: $\rho(r) = \frac{\rho_0}{r^2}$ (Schneider eqn 50)
SLE: (54)

$$\Sigma(\xi) = \int_{-\infty}^{\infty} dr_3 \, \rho\left(\sqrt{\xi^2 + r_3^2}\right)$$

$$= \rho_0 \int_{-\infty}^{\infty} \frac{dr_3}{(\xi^2 + r_3^2)} \quad (55)$$

$$= \frac{\rho_0}{\xi} \arctan\left(\frac{r_3}{\xi}\right) + c$$

http://www.sosmath.com/tables/ → integral/integ41/integ41.html (56)

$$\int_0^{\infty} \frac{dx}{x^2 + a^2} = \frac{\pi}{2a}$$ → times by 2 for $-\infty$ to ∞

$$= \frac{\pi \rho_0}{\xi} \quad (57)$$

$$\Rightarrow \kappa(\theta) = \frac{\Sigma(D_d\theta)}{\Sigma_{crit}} = \frac{\pi \rho_0}{\Sigma_{crit} D_d} \frac{1}{\theta} \quad (58)$$

→ (53) → $$\alpha(\theta) = \frac{2}{\theta} \int_{\theta'=0}^{\theta} \frac{\pi \rho_0}{\Sigma_{crit} D_d} \frac{1}{\theta'} \theta' \, d\theta'$$

$$= \frac{2\pi\rho_0}{\Sigma_{crit} D_d} \frac{1}{\theta} \left[\theta'\right]_{\theta'=0}^{\theta}$$

$$= \frac{2\pi\rho_0}{\Sigma_{crit} D_d}$$ i.e. const bend angle (59)