

$$E_g = \frac{16}{15} \pi^2 G \rho_0^2 R^5 F(x) \quad \text{avec} \quad F(x) = \frac{15}{4} \frac{x(2 \cos^2 x + 1) - 3 \cos x \sin x}{x^3 \sin^2 x}$$