

Curvature

$$2 \phi' [r] + r^2 \phi' [r]^3 + r \phi'' [r]$$

$\phi'$

$$- \frac{L^4}{\sqrt{A^2 - r^2 L^8}}$$

$\phi''$

$$- \frac{L^3 (4 A^2 + r^2 L^9)}{r (A^2 - r^2 L^8)^{3/2}}$$

Curvature

$$- \frac{2 A^2 L^3 (2 + L)}{(A^2 - r^2 L^8)^{3/2}}$$

$r_i$

$$\frac{1}{e^2}$$