

$$\frac{\phi''}{A} + \frac{1}{A} \left(-\frac{1}{2} \frac{A'}{A} + 2 \frac{B'}{B} + \frac{2}{r} \right) \phi' - \frac{2}{r^2} \phi - \lambda \phi (\phi^2 - \eta^2) = 0.$$