

$$\mathcal{S} = \int d^{d+2}x \sqrt{-g} \left[ \frac{1}{2\kappa^2} \left( R - 2(\nabla\Phi)^2 - \frac{V(\Phi)}{L^2} \right) - \frac{Z(\Phi)}{4e^2} F_{ab} F^{ab} \right]$$

with  $Z(\Phi) = Z_0 e^{\alpha\Phi}$ ,  $V(\Phi) = -V_0 e^{-\beta\Phi}$ , as  $\Phi \rightarrow \infty$ .