

$$\Gamma = \int d^4x \left[\tilde{V}(\Phi_B) + Z_{\Phi}^{(0)} |\partial_{\mu} \Phi_B|^2 + \cdots \right] = \int d^4x \left[V(\Phi) + |\partial_{\mu} \Phi|^2 + \cdots \right]$$