

$$\mathcal{L}_{\phi\phi} = (\partial^\mu \phi^*)(\partial_\mu \phi) - m_\phi^2 \phi^* \phi + \sum_{n=2}^3 g_n \frac{(\phi^* \phi)^n}{\Lambda^{2n-4}} + \frac{k}{\Lambda^2} (\partial^\mu \partial_\mu \phi^*)(\partial^\nu \partial_\nu \phi) +$$

$$\frac{1}{\Lambda^2} (l_1 \partial^\mu (\phi^* \phi) \partial_\mu (\phi^* \phi) + l_2 \partial^\mu (\phi^* \phi) J_\mu + l_3 J^\mu J_\mu)$$