

$$\begin{aligned}
\mathcal{S}_{\phi c} = & -g \int d^2r d\tau \sum_{\alpha=1}^{N_f} \phi \left[c_{\alpha}^{\dagger} \left\{ (\partial_x^2 - \partial_y^2 + \dots) c_{\alpha} \right\} \right. \\
& \left. + \left\{ (\partial_x^2 - \partial_y^2 + \dots) c_{\alpha}^{\dagger} \right\} c_{\alpha} \right]
\end{aligned}$$