
1 Exponential Parameterization

$$|\Phi_{\text{HF}}\rangle = e^{-\hat{\kappa}}|0\rangle \quad (1)$$

in which $\hat{\kappa}$ is an anti-Hermitian operator, i.e.:

$$\hat{\kappa} = \sum_{p>q} \kappa_{pq} (E_{pq} - E_{qp}) = \sum_{p>q} \kappa_{pq} E_{pq}^- \quad (2)$$

$$\boldsymbol{\kappa}^\dagger = -\boldsymbol{\kappa} \quad (3)$$