

$$N \frac{\lambda (\hbar G)^4}{5!} \sum_{jnm} (j_{12}(j_{12}+1) - j_L^2) (j_{34}(j_{34}+1) - j_L^2) A_{vertex}(jnm) e^{-\frac{\alpha}{2} \sum_{n,m} (j_{nm} - j_L)^2 - i\Phi \sum_{n,m} j_{nm}}$$