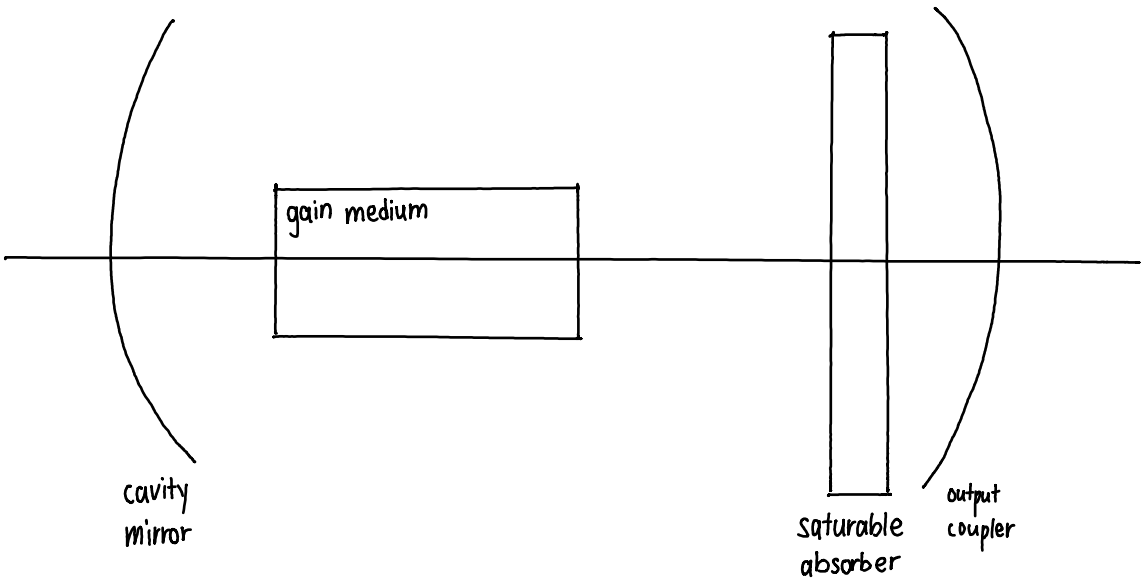
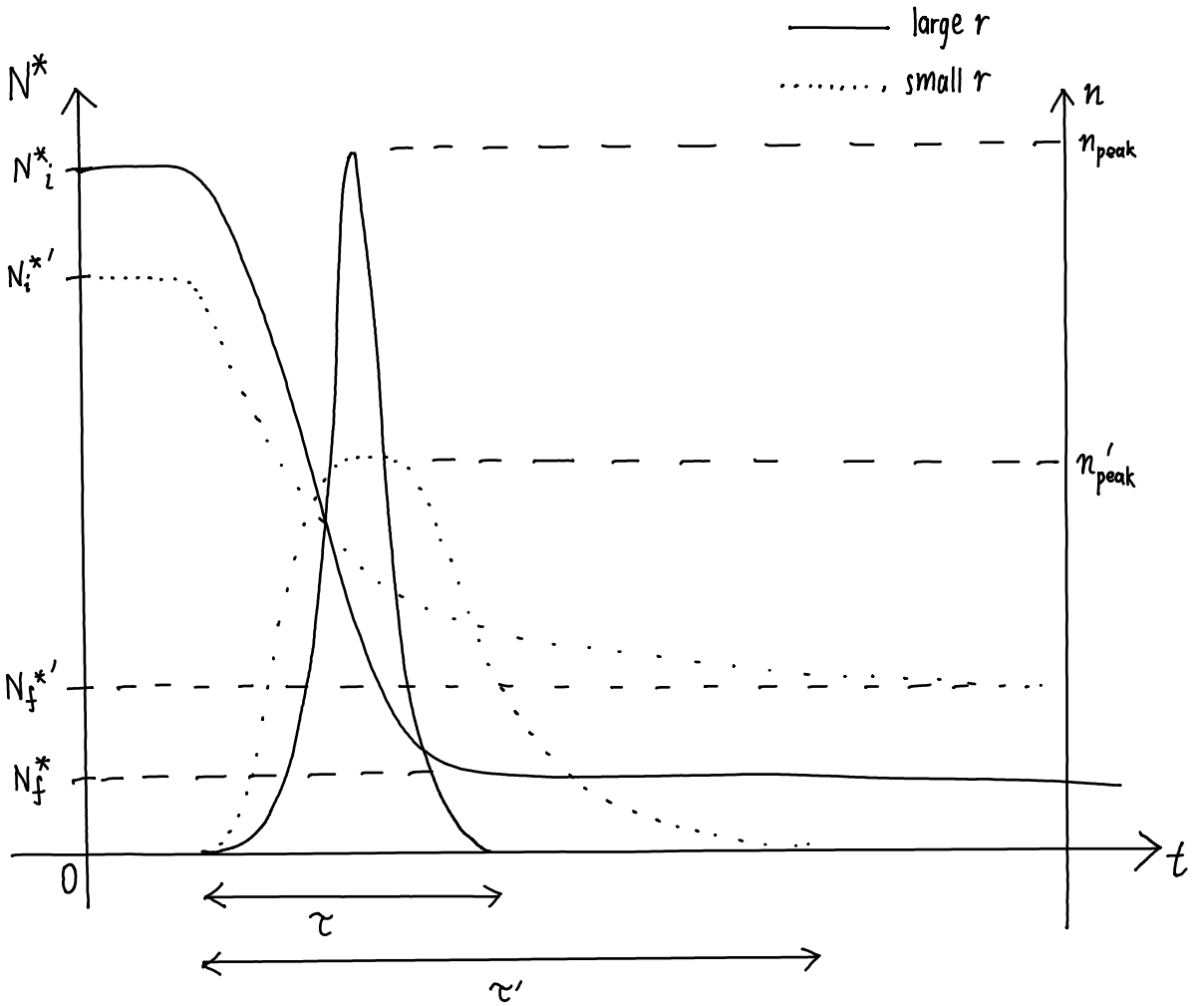
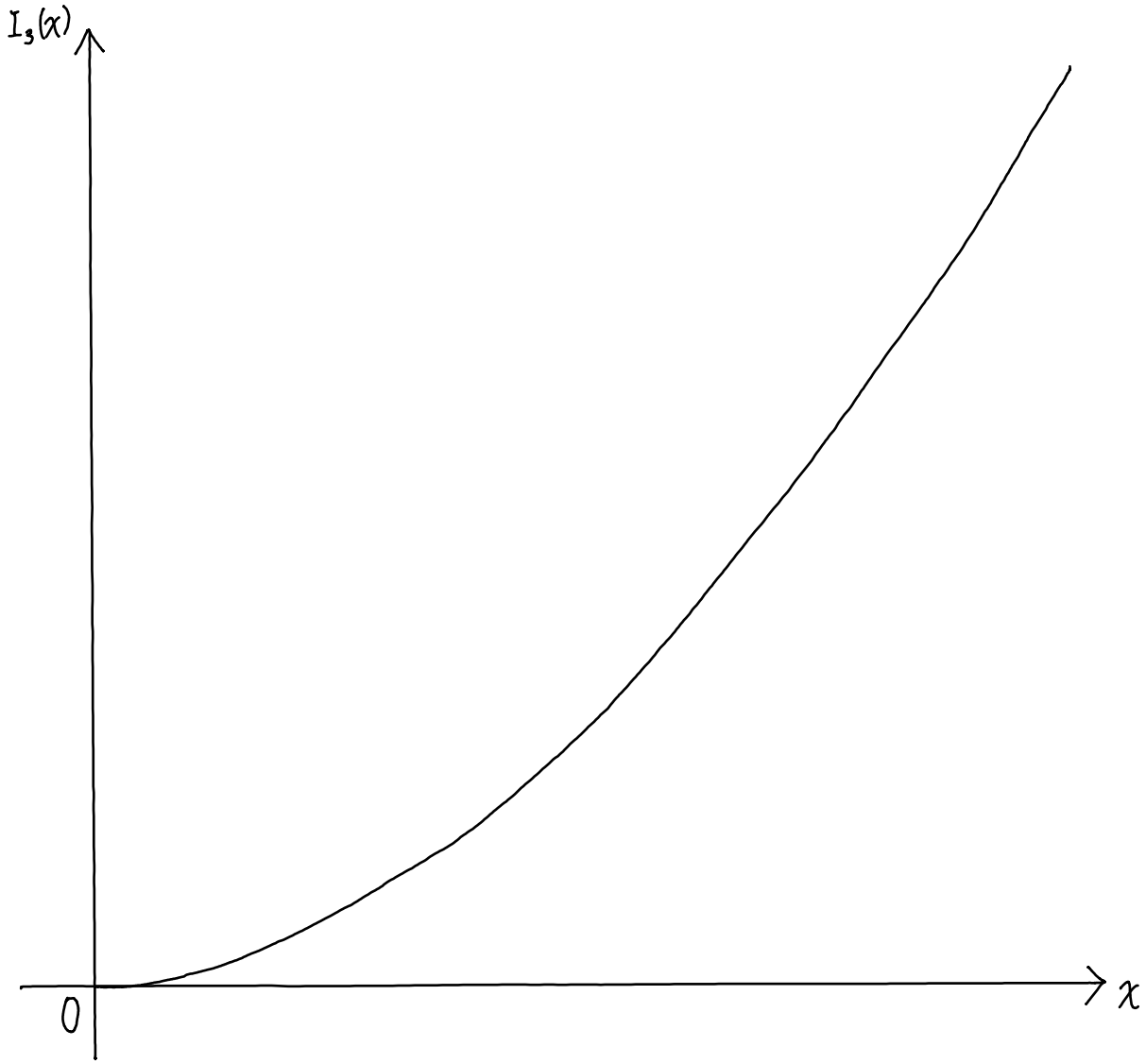
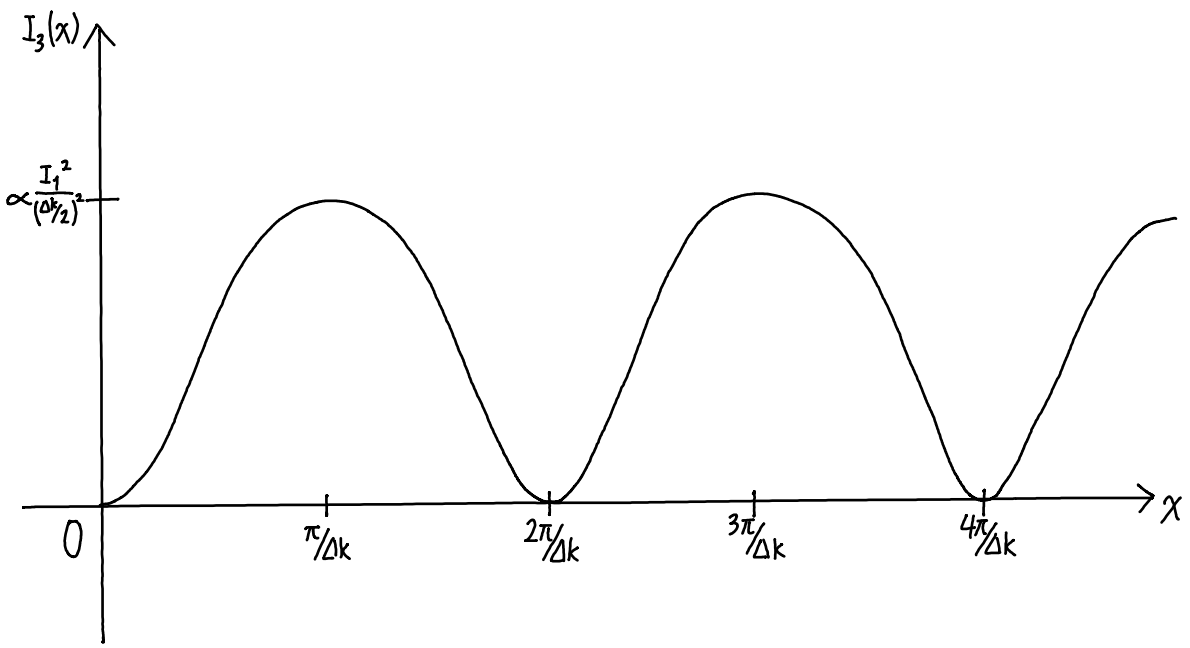
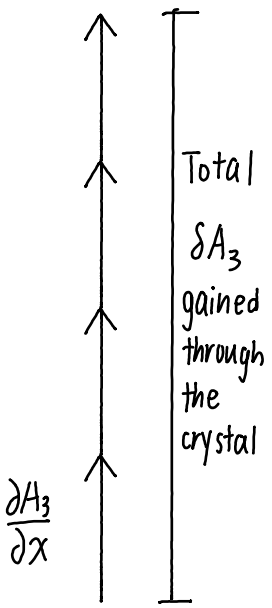

gain medium
cavity mirror
saturable absorber
output coupler

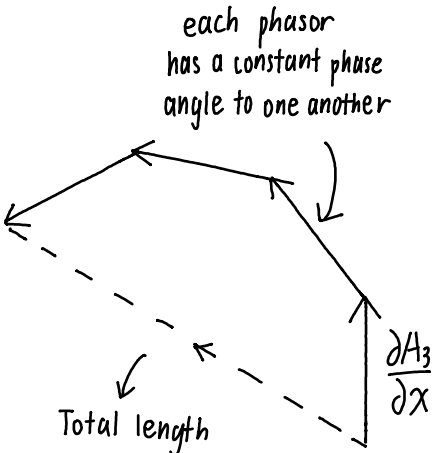

large r
small r
N*
n
N_i^*
$N_i^{*\prime}$
n_{peak}
n'_{peak}
$N_f^{*\prime}$
N_f^*
0
t
τ
τ′


$I_3(x)$
0
x

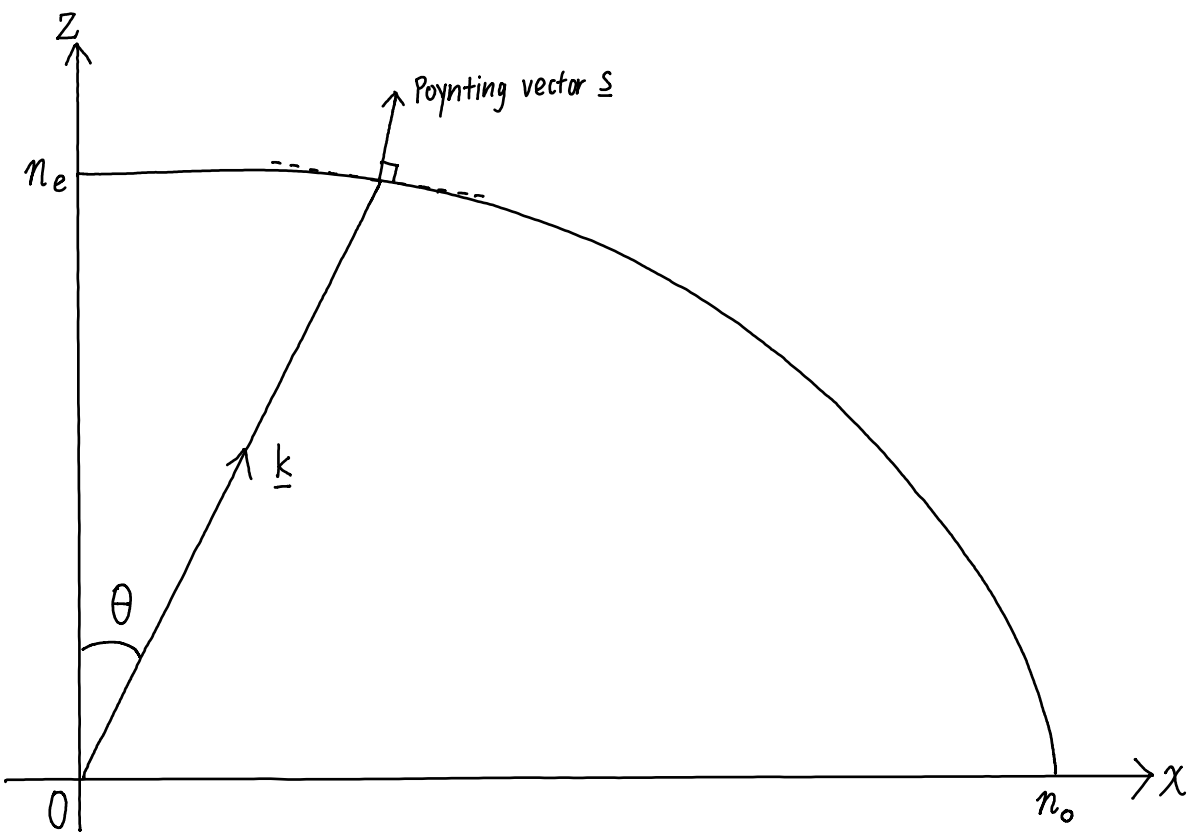

$I_3(x)$
$\propto \frac{I_1^2}{(\Delta k/2)^2}$
0
$\pi/\Delta k$
$2\pi/\Delta k$
$3\pi/\Delta k$
$4\pi/\Delta k$
x

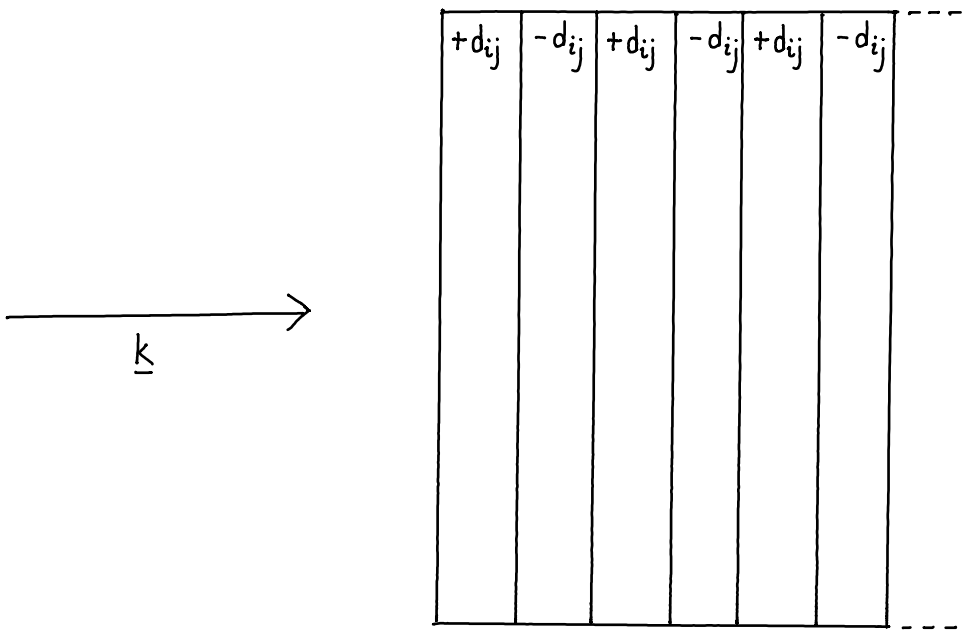


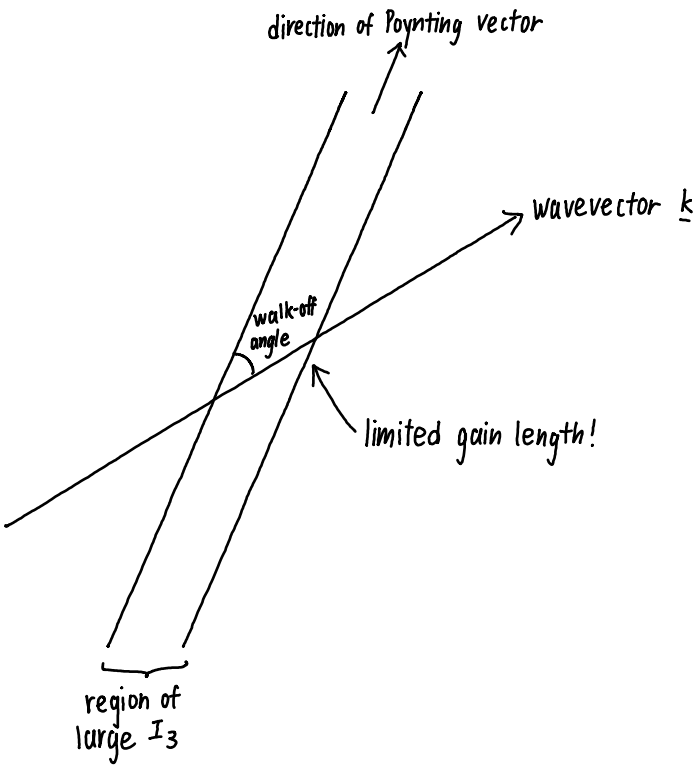
$\Delta k = 0$

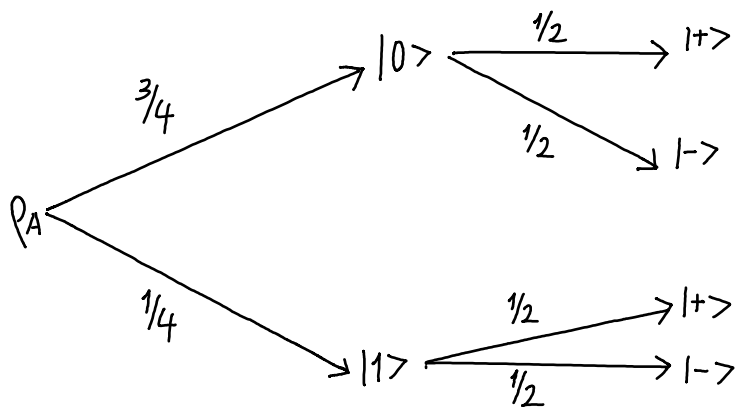


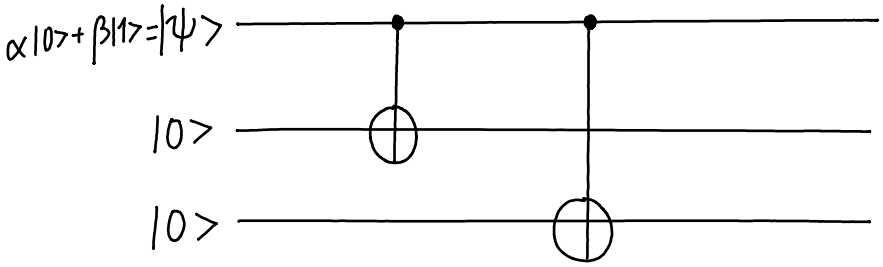
$\Delta k \neq 0$


Z
Poynting vector S
n_e
k
θ
0
n_o
X

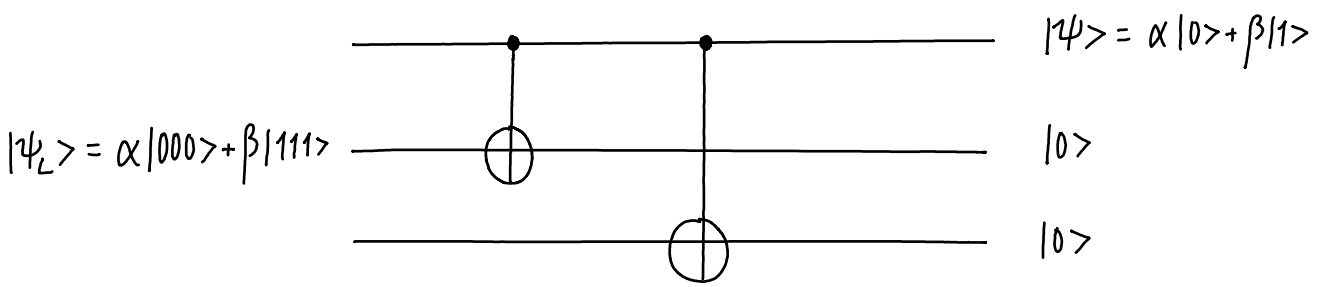

$+d_{ij}$
$-d_{ij}$
$+d_{ij}$
$-d_{ij}$
$+d_{ij}$
$-d_{ij}$
$\underline{k}$

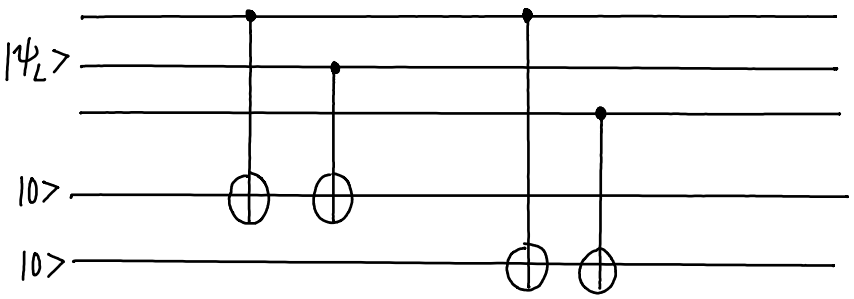

direction of Poynting vector
wavevector $\underline{k}$
walk-off angle
limited gain length!
region of large I_3


ρ_A
3/4
1/4
|0>
|1>
1/2
|+>
1/2
|->
1/2
|+>
1/2
|->

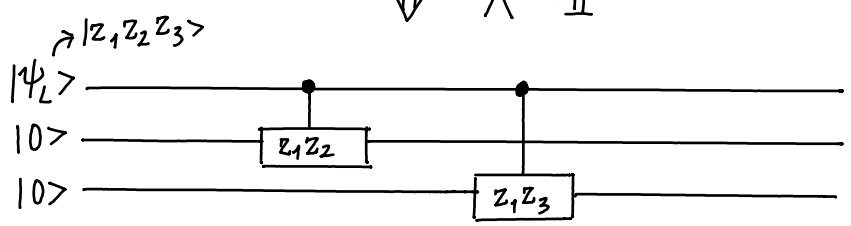


$|\psi_L\rangle = \alpha|000\rangle + \beta|111\rangle$

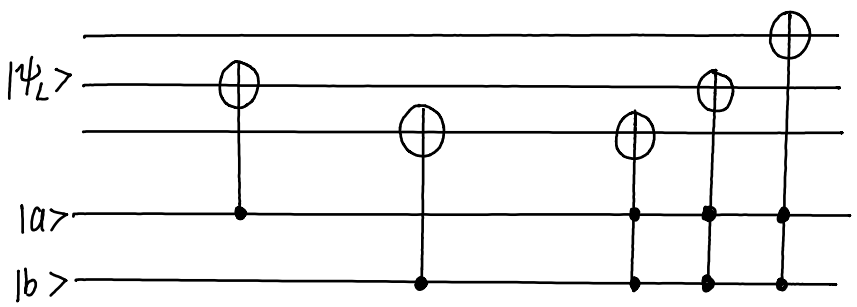

$|\psi_L\rangle = \alpha|000\rangle + \beta|111\rangle$
$|\psi\rangle = \alpha|0\rangle + \beta|1\rangle$
$|0\rangle$
$|0\rangle$



$\Downarrow \quad X^2 \propto \mathbb{1}$



$$Z_i Z_j = \begin{cases} +1 & \text{Physical qubits } i \text{ and } j \text{ have identical parity} \\ -1 & \text{Physical qubits } i \text{ and } j \text{ have opposing parity} \end{cases}$$


$|\psi_L\rangle$
$|a\rangle$
$|b\rangle$