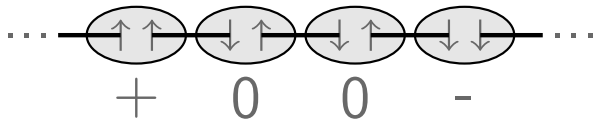
Brayden's Diagrams

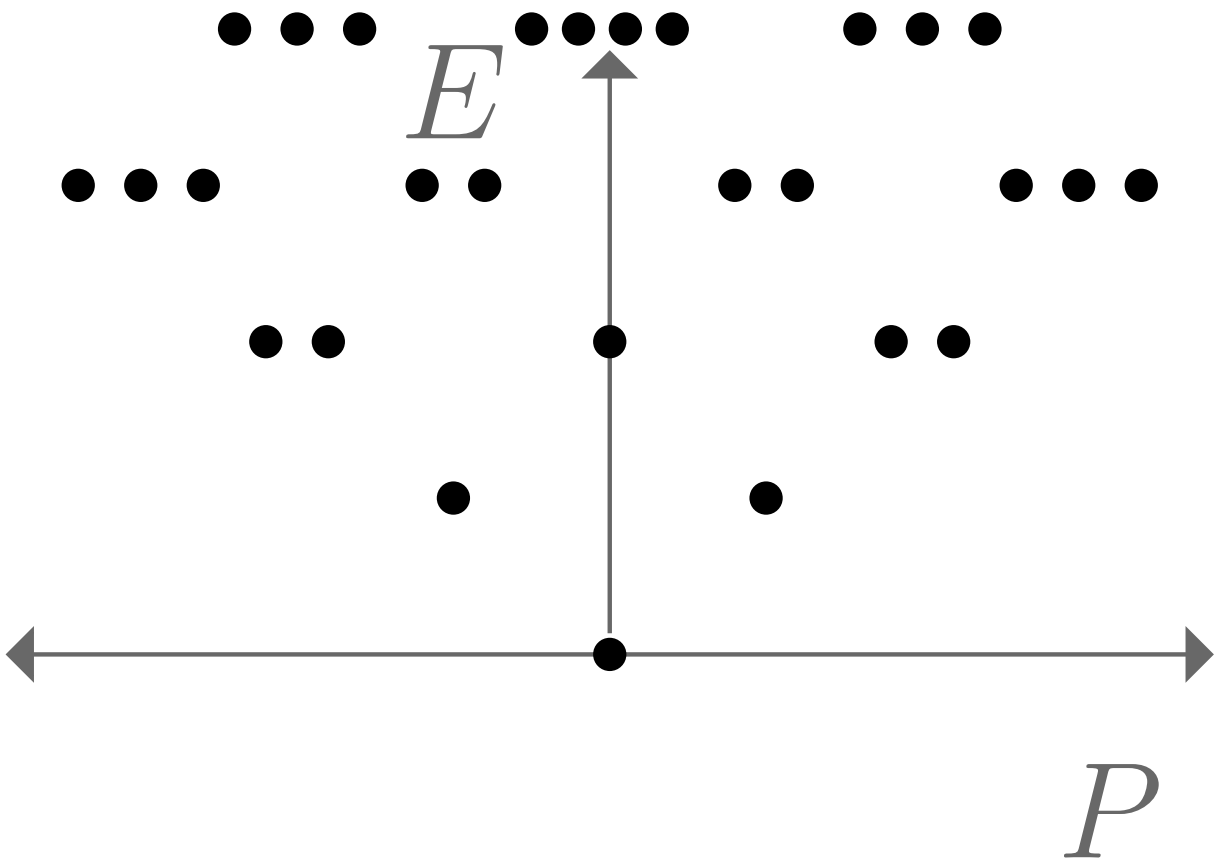
Brayden Ware

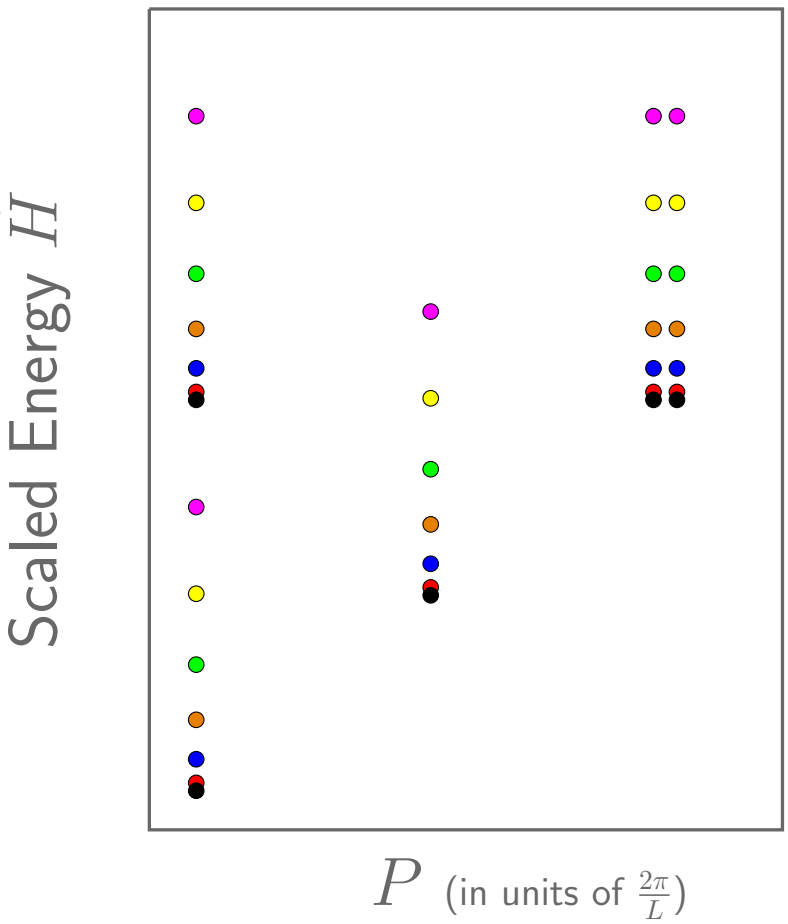
September 30th 2014

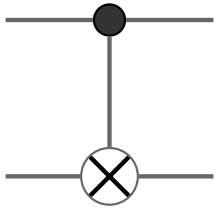
Outline

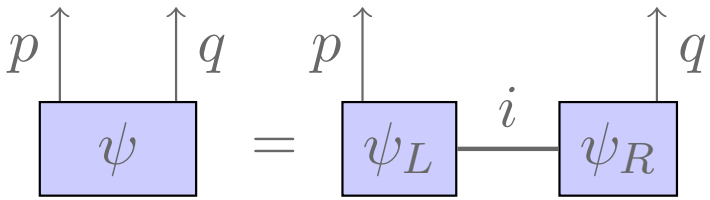
Diagrams

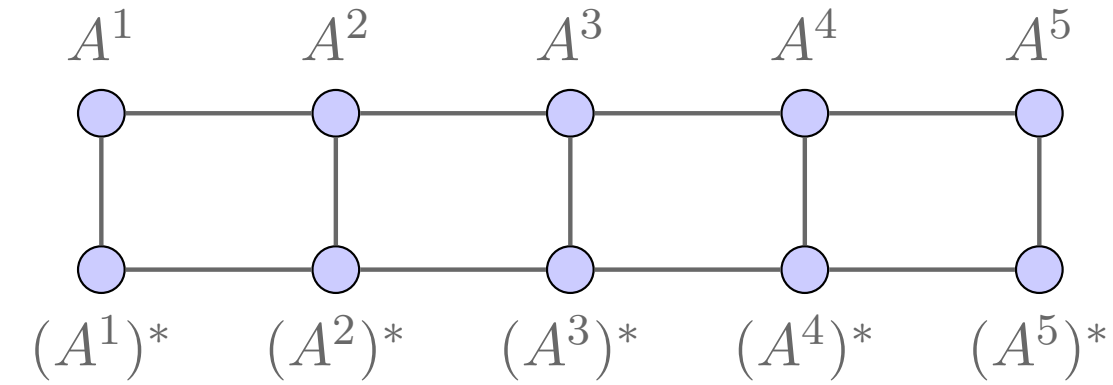

+
0
0
-

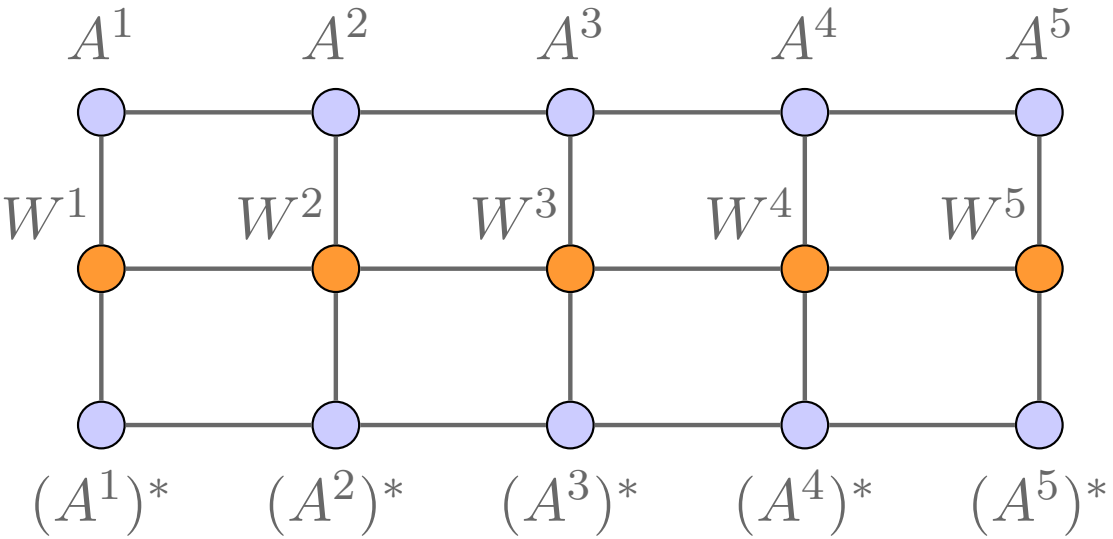

E
P

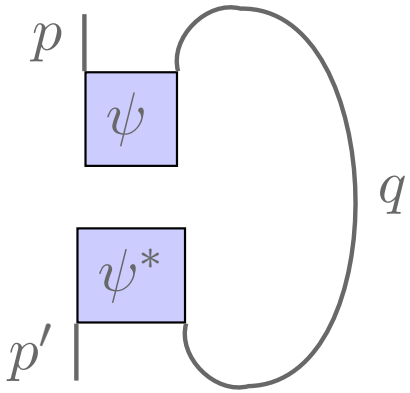

Scaled Energy $\tilde{H}$
P (in units of $\frac{2\pi}{L}$)

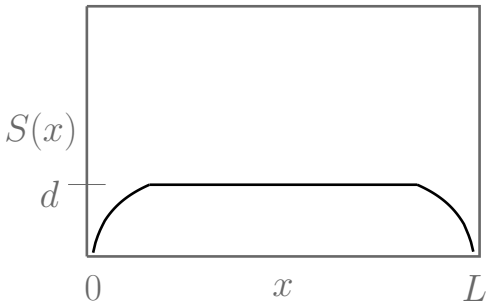


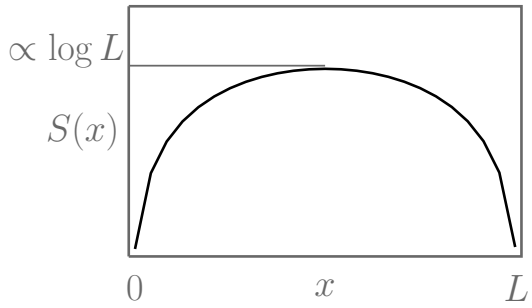

p
q
ψ
=
p
q
ψ_L
i
ψ_R

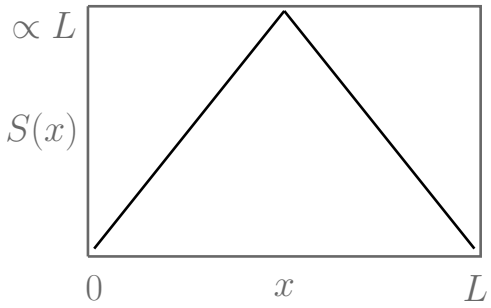

A^1 A^2 A^3 A^4 A^5
$(A^1)^*$ $(A^2)^*$ $(A^3)^*$ $(A^4)^*$ $(A^5)^*$

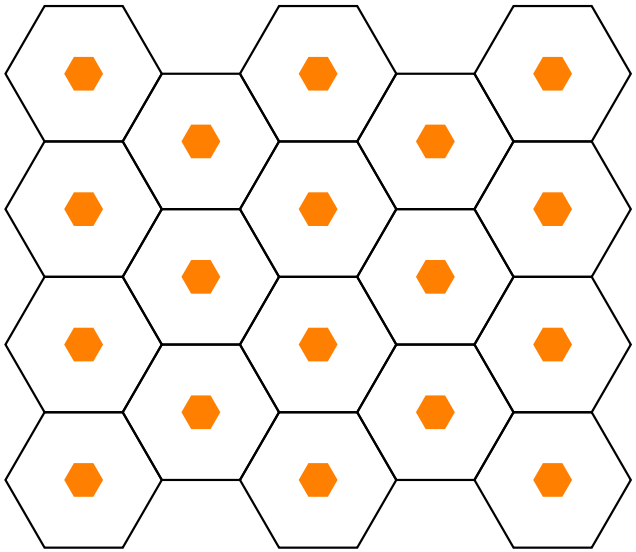

A^1 A^2 A^3 A^4 A^5
W^1 W^2 W^3 W^4 W^5
$(A^1)^*$ $(A^2)^*$ $(A^3)^*$ $(A^4)^*$ $(A^5)^*$

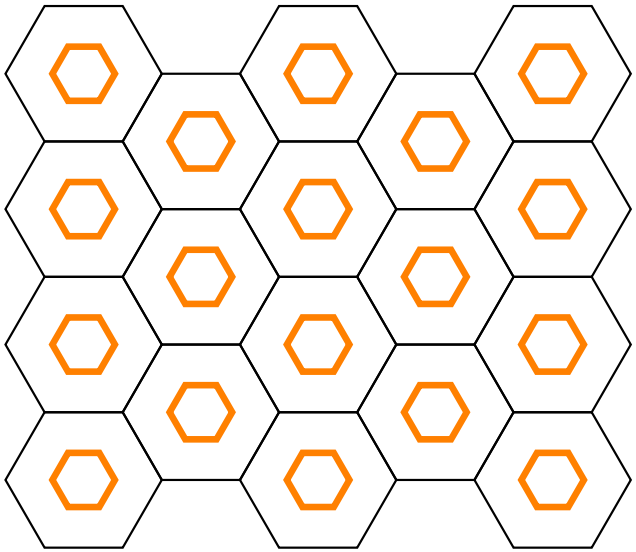

p
ψ
q
ψ^*
p'

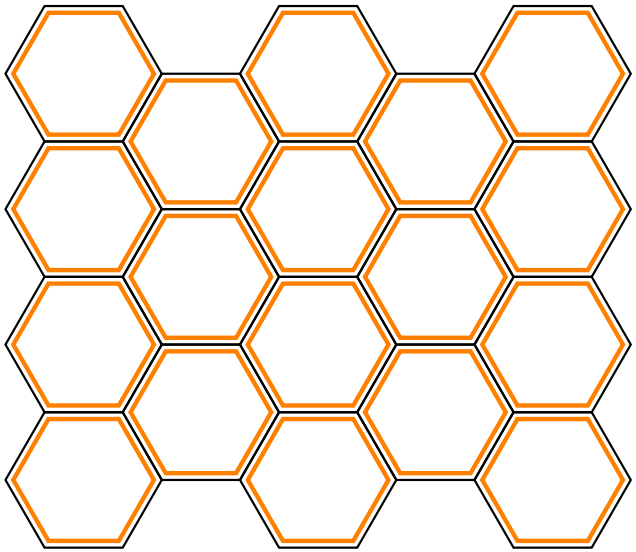

$S(x)$
d
0
x
L

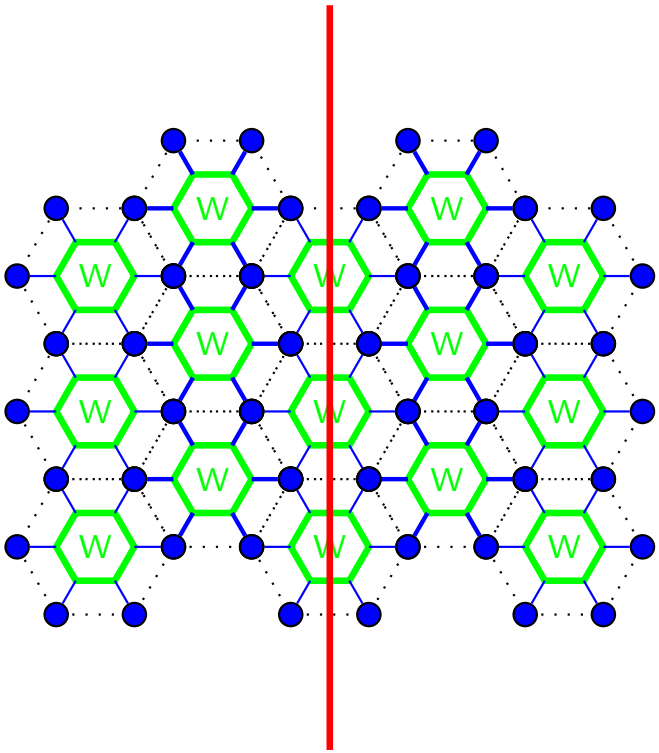

$\propto \log L$
$S(x)$
0
x
L

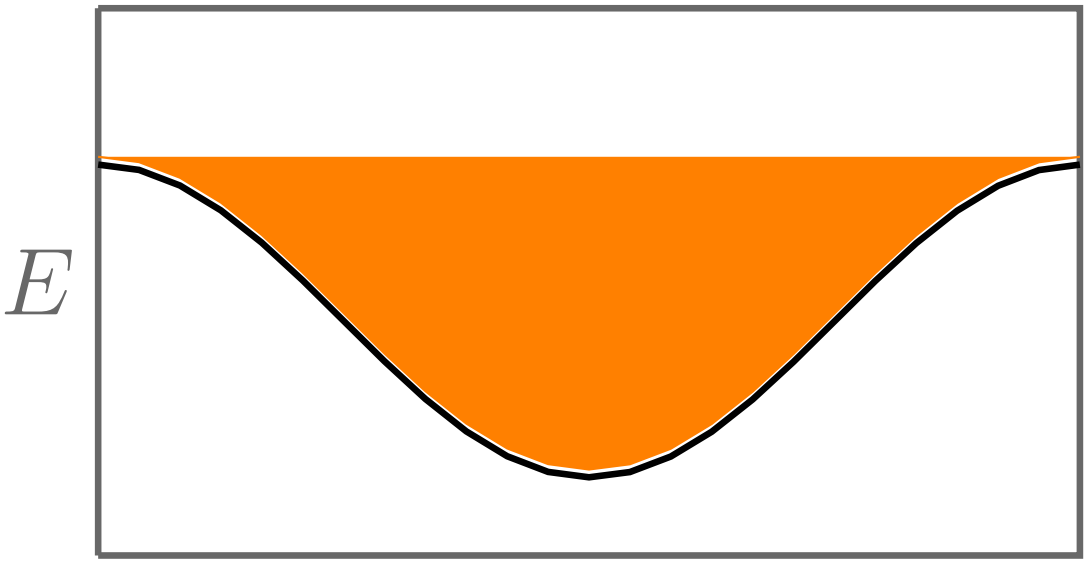

$\propto L$
$S(x)$
0
x
L

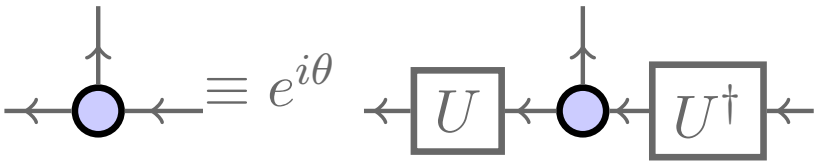


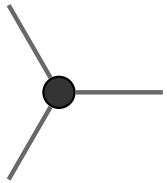




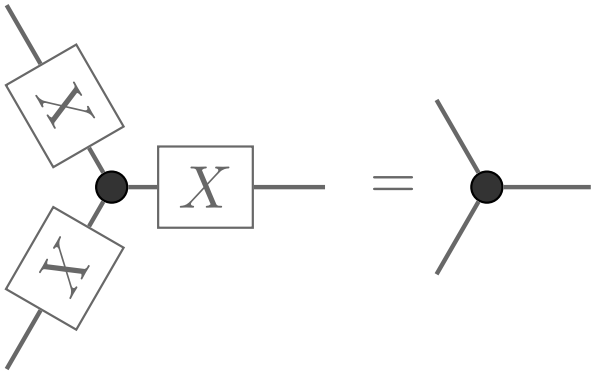

W
W
W
W
W
W
W
W
W
W
W
W
W
W
W

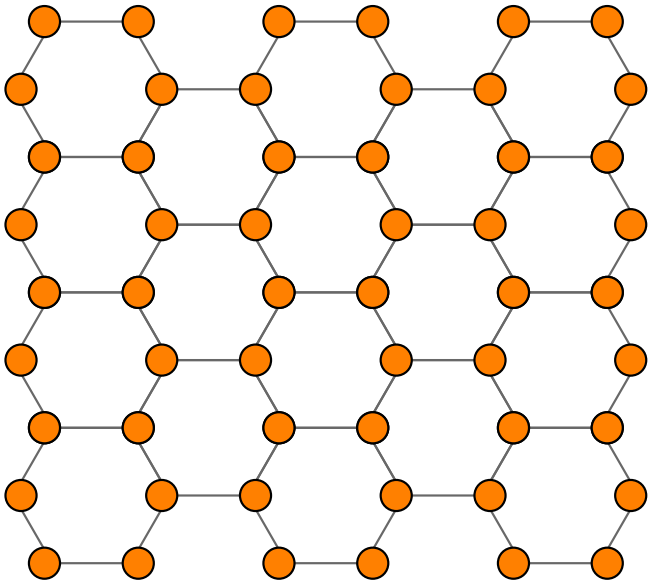

E

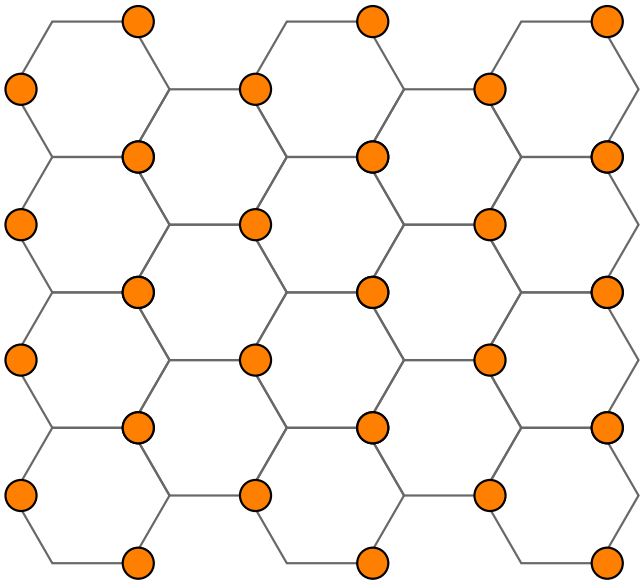

$\equiv e^{i\theta}$
U
$U^\dagger$

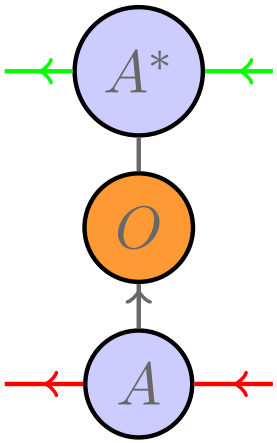


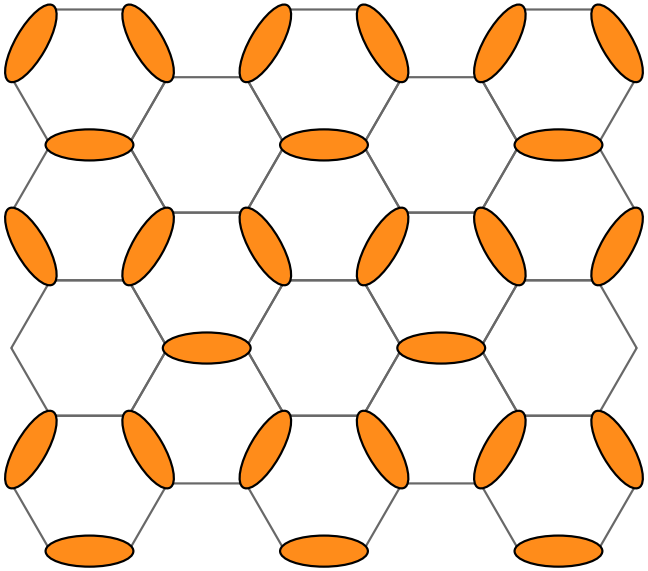
$$|GHZ\rangle = |000\rangle + |111\rangle$$

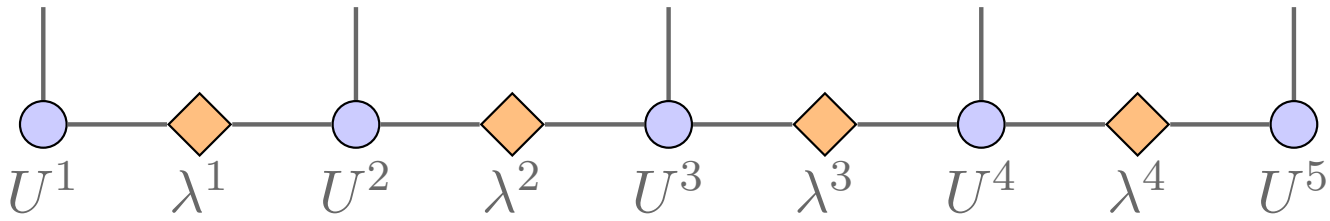

X
X
X

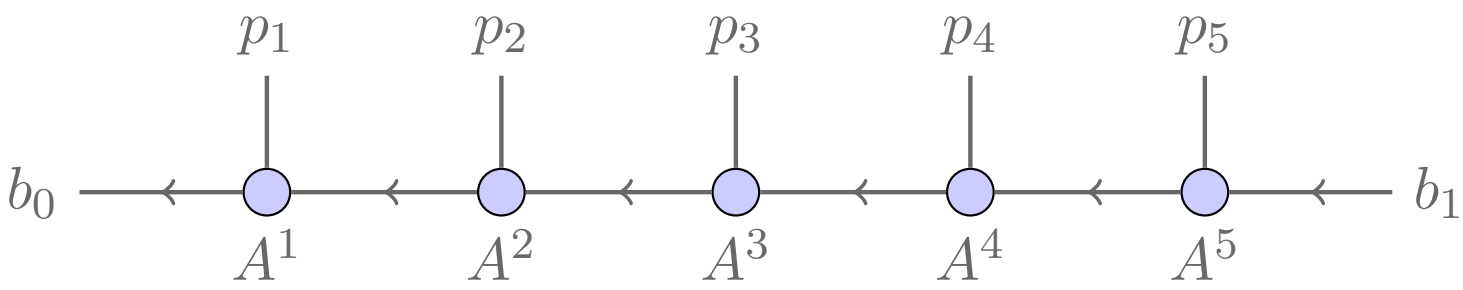


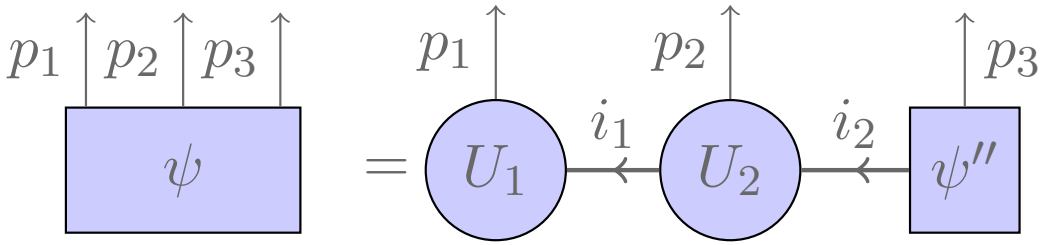


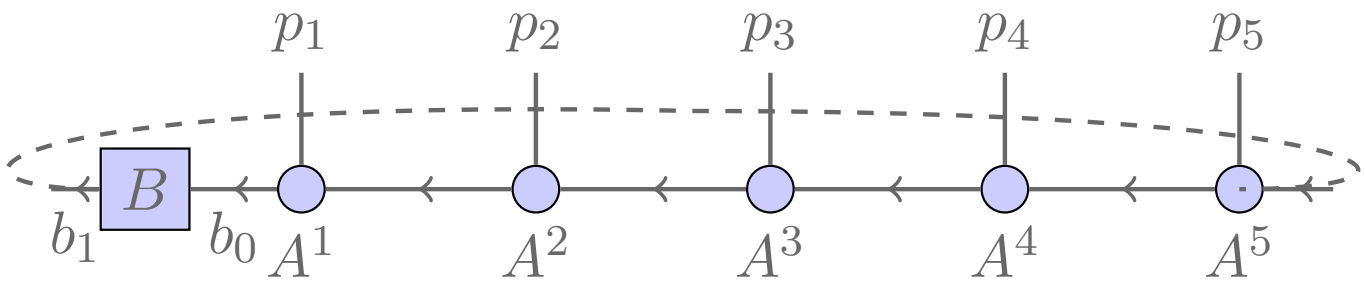

A^*
O
A

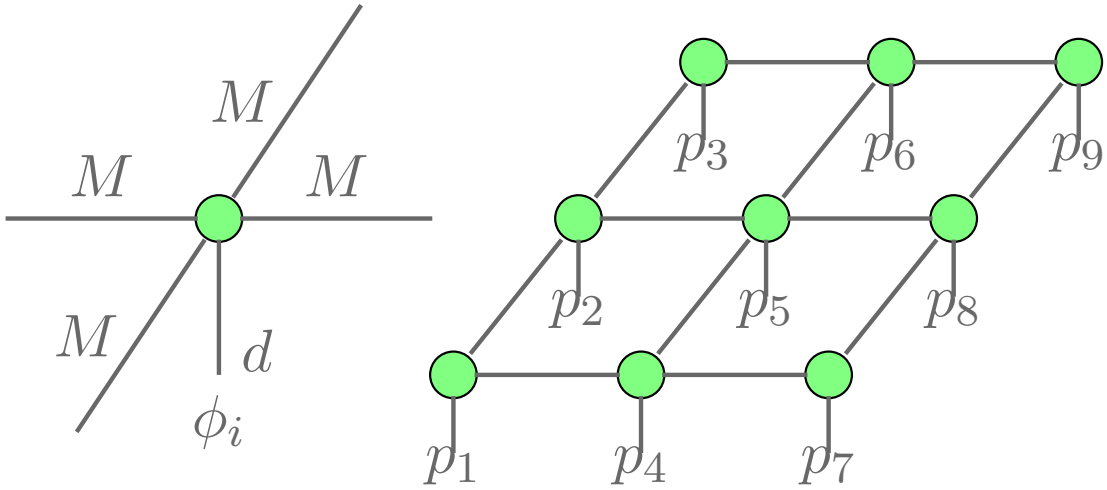


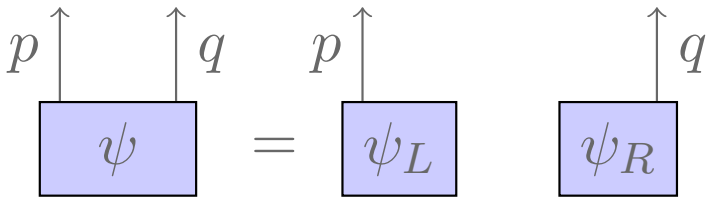

U^1
λ^1
U^2
λ^2
U^3
λ^3
U^4
λ^4
U^5

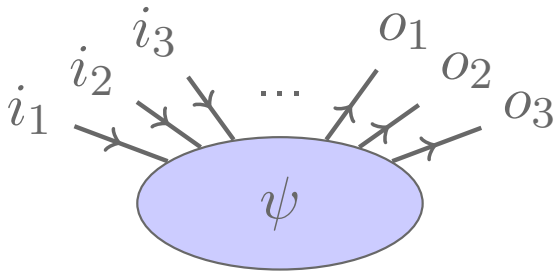

p_1
p_2
p_3
p_4
p_5
b_0
b_1
A^1
A^2
A^3
A^4
A^5


p_1
p_2
p_3
ψ
=
p_1
p_2
p_3
U_1
i_1
U_2
i_2
ψ''

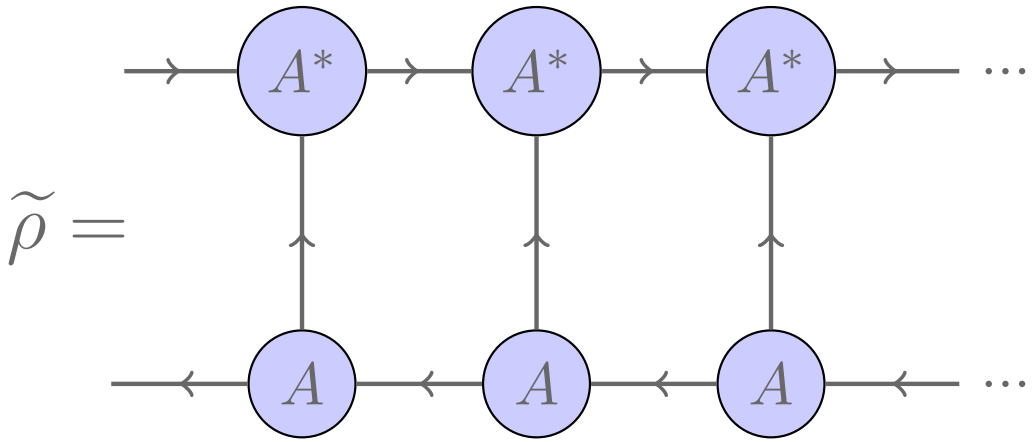

p_1
p_2
p_3
p_4
p_5
B
b_1
b_0
A^1
A^2
A^3
A^4
A^5

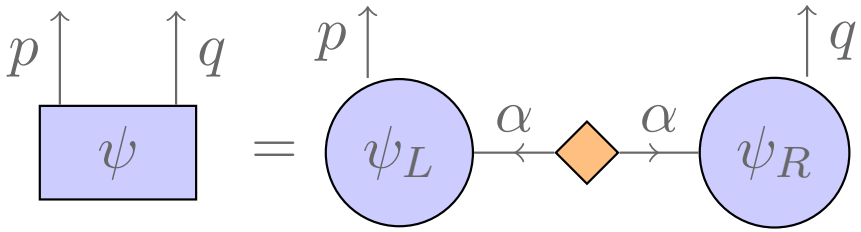

M
M
M
M
d
ϕ_i
p_1
p_2
p_3
p_4
p_5
p_6
p_7
p_8
p_9

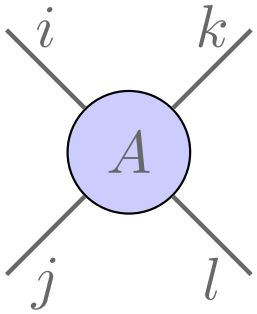

p
q
ψ
=
p
ψ_L
q
ψ_R

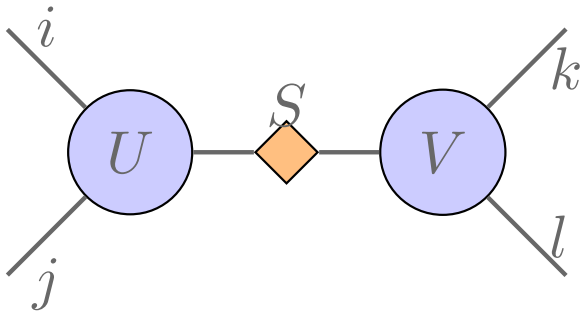


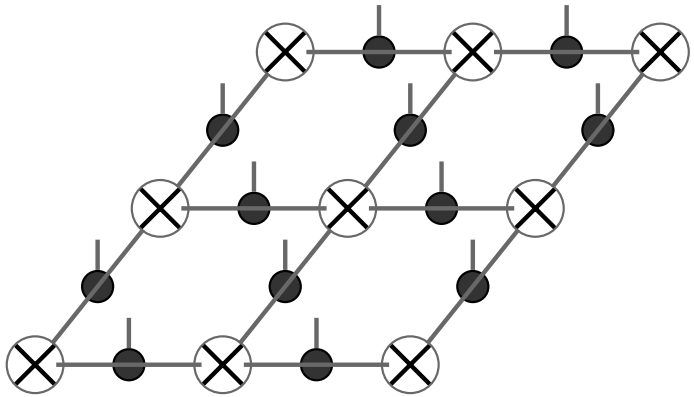
$$|\psi\rangle = \sum \psi_{i_1 i_2 .. o_1 o_2 ..} |o_1 o_2 ..\rangle\langle i_1 i_2 ..|$$

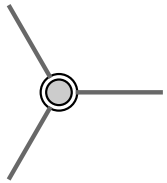

$\widetilde{\rho} =$
A^*
A^*
A^*
A
A
A


p
q
ψ
=
p
q
ψ_L
α
α
ψ_R

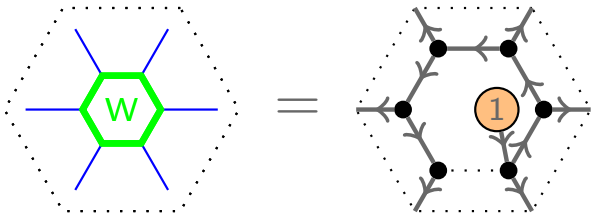

i
k
A
j
l

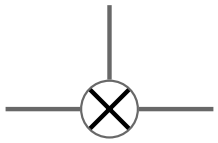

i
U
S
V
k
j
l





$$|W\rangle = |001\rangle + |010\rangle + |100\rangle$$


W
=
1



$$|X\rangle = |000\rangle + |011\rangle + |101\rangle + |110\rangle$$


Dimerized
J_2
Gapless