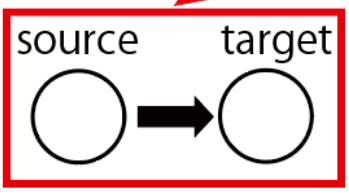
[[hamiltonian]]

$$\mathcal{H} = \sum_{i,j} \mathcal{H}_{ij}$$

Bond Hamiltonian

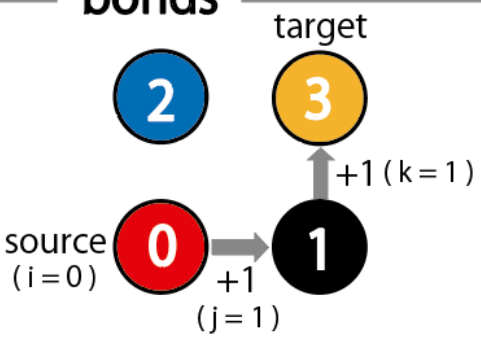


dim = [2, 2]

source and target take two states,

spin-up and spin-down, respectively

bonds



bonds = """

i j k

i : Specify source bond. i = 0, 1, 2, 3.

j : Amount of movement from source bond to +x direction.

k : Amount of movement from source bond to +y direction.

target ボンドの指定

bonds = """

0 1 0 ← source is 0, target is 1

⋮

"""

elements = """

0 1 1 0 0.5 0.0

⋮

"""

$\langle 10|\mathcal{H}_b|01\rangle$ s : source, t : target

$= {}_s\langle\downarrow| \otimes {}_t\langle\uparrow| \mathcal{H}_b |\uparrow\rangle_s \otimes |\downarrow\rangle_t$

post-action pre-action

$= 0.5 + 0\,i$

Real Imaginary