Ti*k*Z tensor network diagrams

Jesse Osborne

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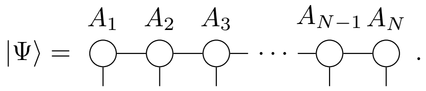
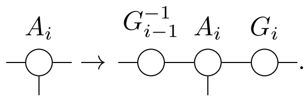
Finite MPS:



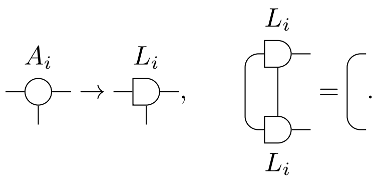
(1)

Gauge transform:



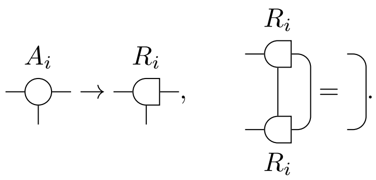
(2)

Left-orthogonal form:



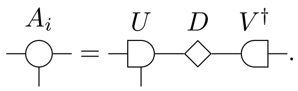
(3)

Right-orthogonal form:



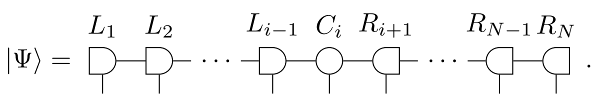
(4)

SVD:

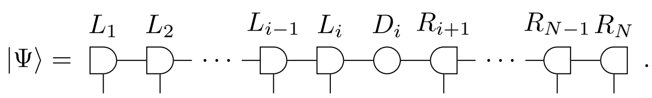


(5)

Mixed-canonical form:

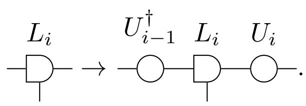


(6)



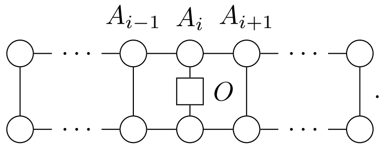
(7)

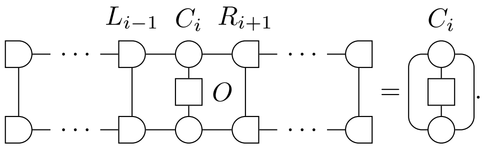
Unitary gauge transformation:



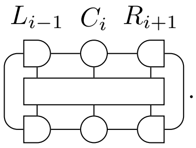
(8)

Expectation value:

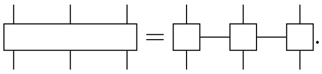
$\langle\Psi|O_i|\Psi\rangle =$  (9)

$\langle\Psi|O_i|\Psi\rangle =$  (10)

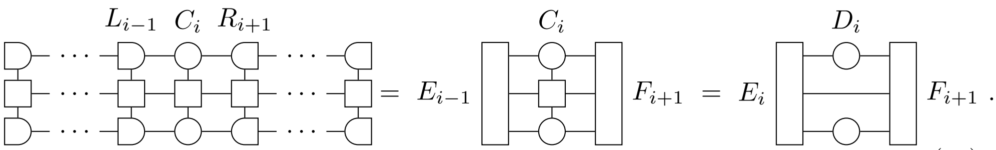
Multi-site expectation value:

$\langle\Psi|O|\Psi\rangle =$  (11)

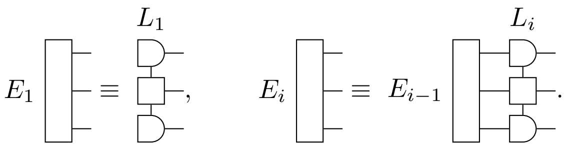
MPO:

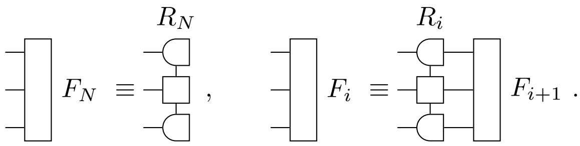
 (12)

MPO expectation value:

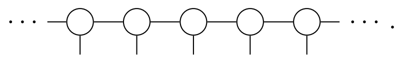
$\langle\Psi|H|\Psi\rangle =$  (13)

Environment tensors:

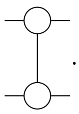
 (14)

 (15)

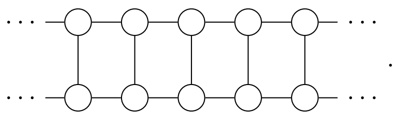
iMPS:

$|\Psi\rangle =$  (16)

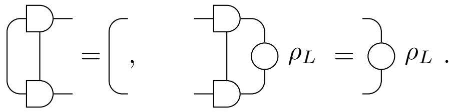
Transfer matrix:

$T =$  (17)

MPS norm:

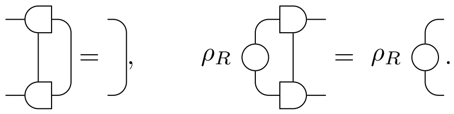
$\langle\Psi|\Psi\rangle =$  (18)

Left-orthogonal form:



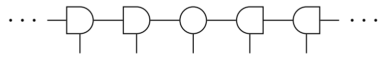
(19)

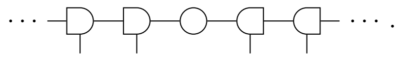
Right-orthogonal form:



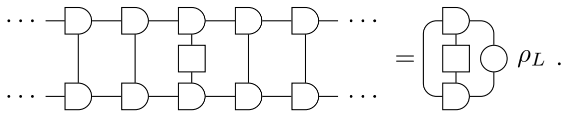
(20)

Mixed-canonical form:

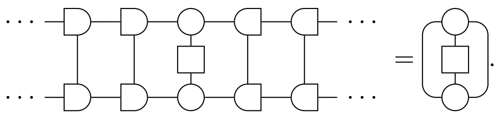
$|\Psi\rangle =$  (21)

$=$  (22)

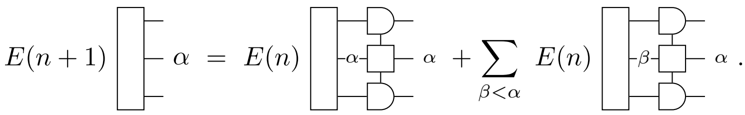
iMPS expectation value:

$\langle\Psi|O_i|\Psi\rangle =$ 

(23)

$\langle\Psi|O_i|\Psi\rangle =$  (24)

Environment tensor recursion relation:



(25)