Ti*k*Z tensor network diagrams

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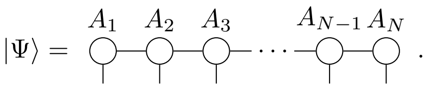
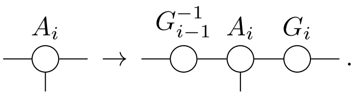
19 February 2024

Finite MPS:



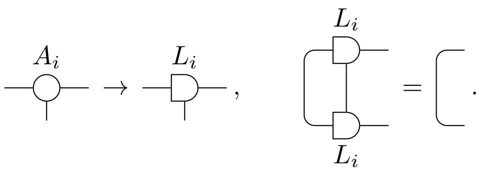
(1)

Gauge transform:



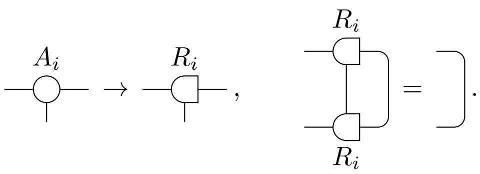
(2)

Left-orthogonal form:



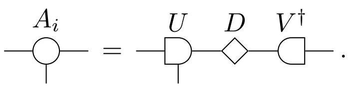
(3)

Right-orthogonal form:



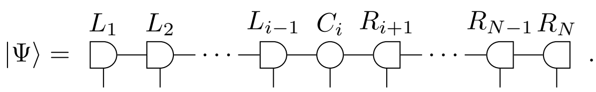
(4)

SVD:

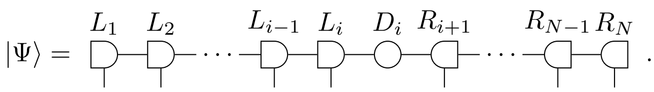


(5)

Mixed-canonical form:

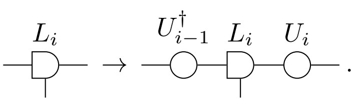


(6)



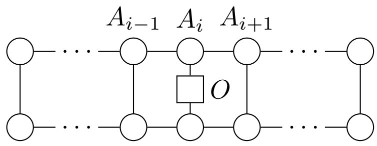
(7)

Unitary gauge transformation:

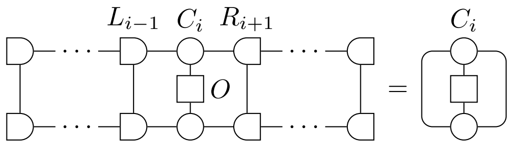


(8)

Expectation value:

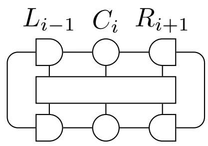
$$\langle\Psi|O_i|\Psi\rangle =$$ 

. (9)

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

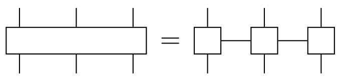
. (10)

Multi-site expectation value:

$$\langle\Psi|O|\Psi\rangle =$$ 

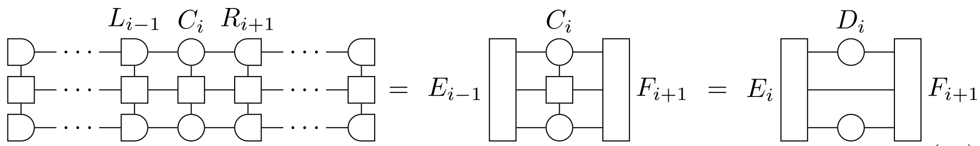
. (11)

MPO:



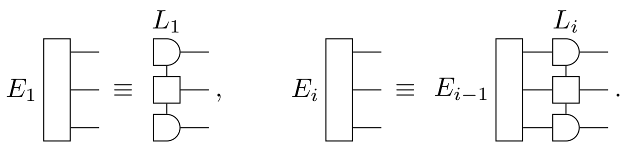
. (12)

MPO expectation value:

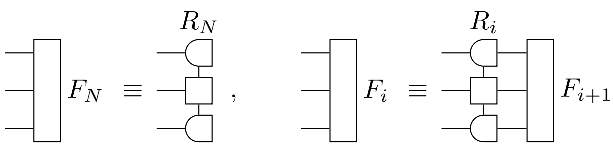
$$\langle\Psi|H|\Psi\rangle =$$ 

. (13)

Environment tensors:

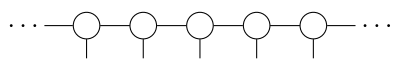


. (14)

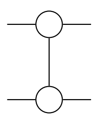


. (15)

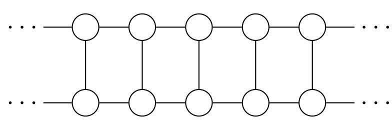
iMPS:

$$|\Psi\rangle =$$ 
. (16)

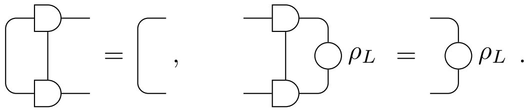
Transfer matrix:

$$T =$$ 
. (17)

MPS norm:

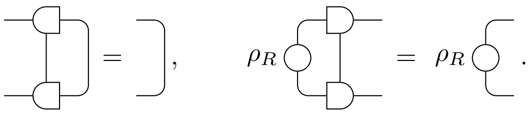
$$\langle\Psi|\Psi\rangle =$$ 
. (18)

Left-orthogonal form:



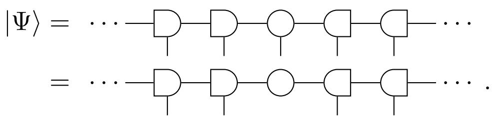
(19)

Right-orthogonal form:



(20)

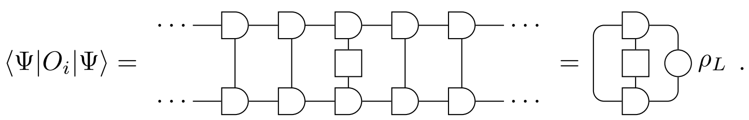
Mixed-canonical form:



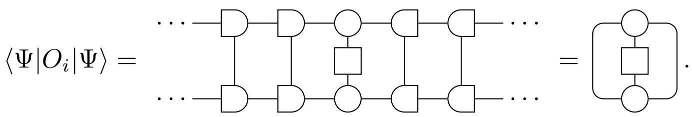
(21)

(22)

iMPS expectation value:

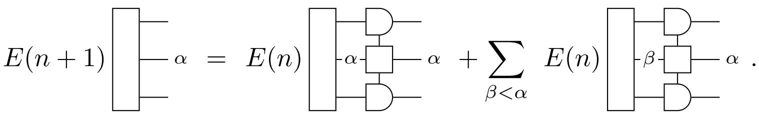


(23)



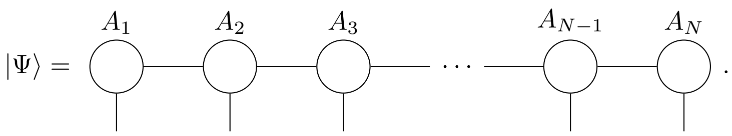
(24)

Environment tensor recursion relation:



(25)

Big diagram:



(26)

Inline diagram: $|\Psi\rangle =$