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Quantum walk on a half line

Quantum walks have been studied in mathematics, physics, and quantum information theory since around 2000. We see a quantum walk on a half line in this talk. Updated with a unitary operation, the quantum walker moves on the half line in superposition and it is observed at a position with a probability distribution. Based on the paper [1], I will show the representation for the probability distribution and its limit distribution.

[1] T. Machida : A quantum walk on the half line with a particular initial state, Quantum Information Processing, Vol.15, No.8, pp. 3101-3119 (2016).