

*I Got It Bad (And That Ain't Good)*

$$1 = D$$

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Diagram illustrating the evolution of a 1D spin chain over 10 time steps. The chain has 10 sites. The initial state at time 0 is a product state with spins 1, 4, 1, 4, 1, 9, 6, 7, 2, 1. The evolution is shown by a series of vertical lines representing time steps. The spins at each time step are indicated by numbers in boxes. The diagram shows the propagation of information and the formation of entanglement. The final state at time 10 is a product state with spins 1, 4, 1, 4, 1, 9, 6, 7, 2, 1.

Figure 1 displays four plots showing the distribution of the number of nodes in the tree for different values of  $n$ . The x-axis represents the number of nodes (1 to 10000) and the y-axis represents the probability (0 to 1). The distributions are shown as bar charts with the number of nodes on the x-axis and the probability on the y-axis. The distributions are unimodal and shift to the right as  $n$  increases.

- Plot 1 ( $n=10$ ):** The distribution is centered around 10 nodes. The x-axis is labeled with  $1^{\Delta_{add} 99}$ ,  $4^9$ ,  $1^{\Delta}$ ,  $4^9$ ,  $1^9$ ,  $3^0$ , and  $6^7$ .
- Plot 2 ( $n=100$ ):** The distribution is centered around 100 nodes. The x-axis is labeled with  $2^{-7}$ ,  $5^{13}$ ,  $2^{-7}$ ,  $5^7$ ,  $7^7$ ,  $6^7$ , and  $2^{-7}$ .
- Plot 3 ( $n=1000$ ):** The distribution is centered around 1000 nodes. The x-axis is labeled with  $7^7$ ,  $6^7$ , and  $2^{-7}$ .
- Plot 4 ( $n=10000$ ):** The distribution is centered around 10000 nodes. The x-axis is labeled with  $6^7$  and  $2^{-7}$ .

[illegible]



