Hi! We are the IsaacChuangFansClub team!

Problem

An analog Hamiltonian simulation computer solves this problem by trying to be in the lowest energy state.

Approach

Graph design

On the picture below one can find the graph structure we have used in the challenge in order to maximize the number of independent sets. The way the pattern is created is by multiplying the building block element depicted in the next

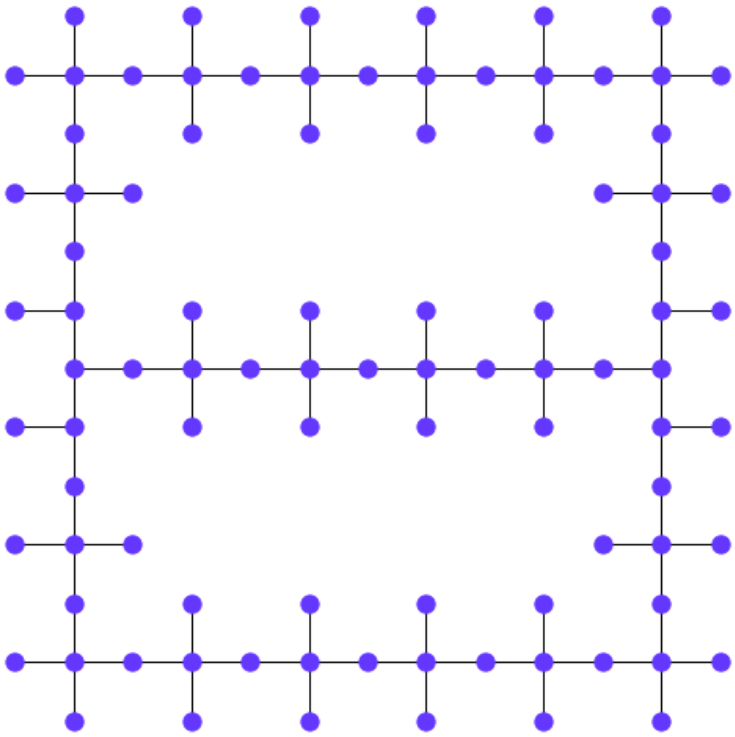
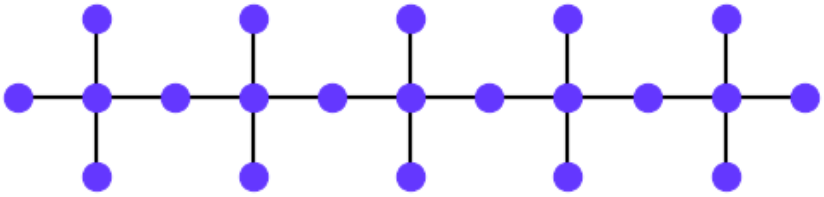


figure.



Фигура 1: Building block element

Other graphs we've looked into

Blockade radius optimization

Pulse Optimization

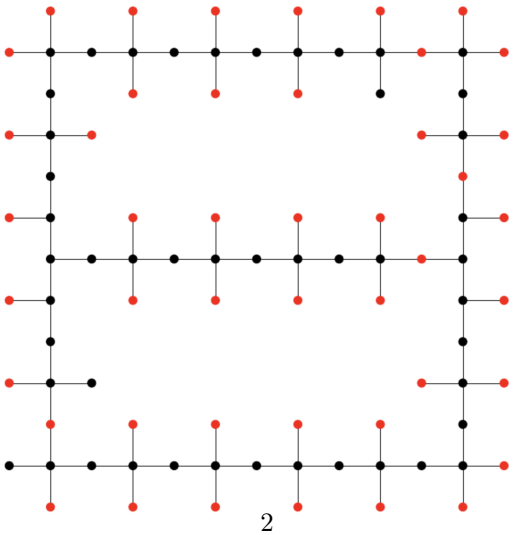
References

[1] Minimizing irreversible losses in quantum systems by local counterdiabatic driving

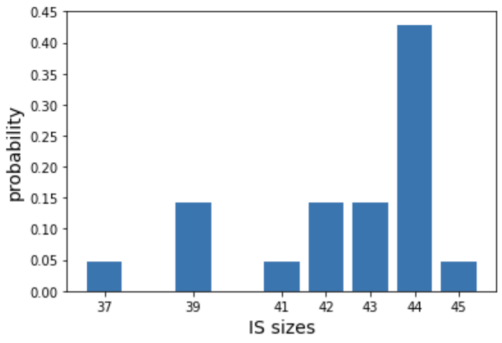
Results

The result of running the demonstration algorithm with the enhanced parameters is presented below.

Variable	Quantity
Nshots	80
Number of independent sets	51
Total number of nodes	93



Фигура 2: Graph result



Фигура 3: Graph shots analysis