**Digital-analog Variational Quantum Eigensolver**

Task description: This task is to develop a new VQE ansatz based on the digital-analog quantum computing (DAQC) framework. The ansatz will combine analog evolution of the processor hamiltonian with single qubit gates placed at the right time intervals. The model has potential to be “more hardware efficient” than typical hardware efficient ansätze.

Reason for using DAQC:

1. Reduce number of gates
2. Combines digital single qubit gates with analog multi-qubit blocks.

Imortant points: VQE uses a parametrized circuit U with parameters θ For this an ansatz is chosen

There are three files

1.DACQE\_first

It is the implementation of example of notebook provided of Hanstaz in linear combination and ground state enegy is calculated

2. DACQE\_2nd

It is the implementation of example of notebook provided of Hanstaz in star shape and ground state enegy is calculated

3. DACQE\_third

It is the implementation of example of notebook provided of Hanstaz in a loop and ground state enegy is calculated