

Cloud control for cold atoms

Presented by

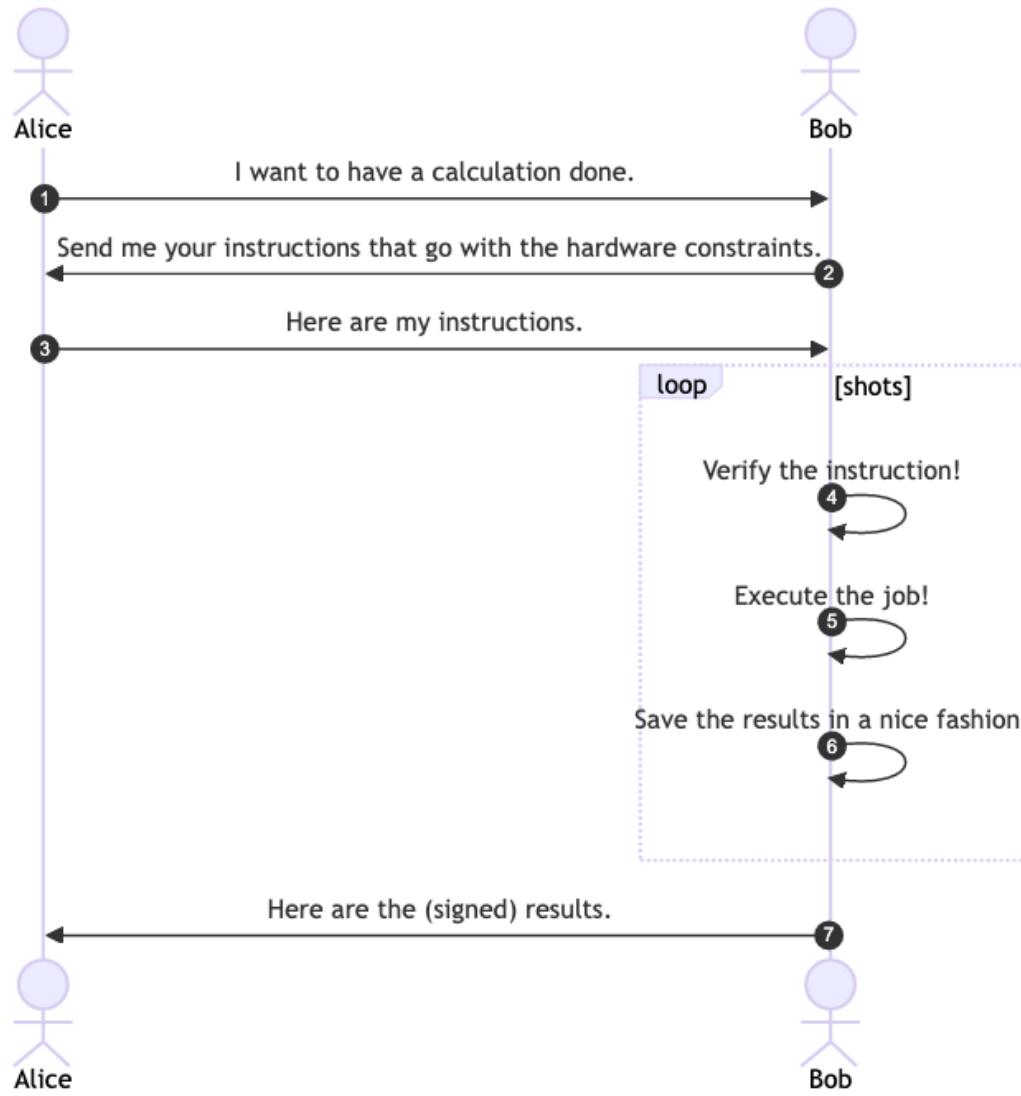
Fred Jendrzejewski, i.e. [fretchen](#)



Why cold atoms ?

Cold atoms are:

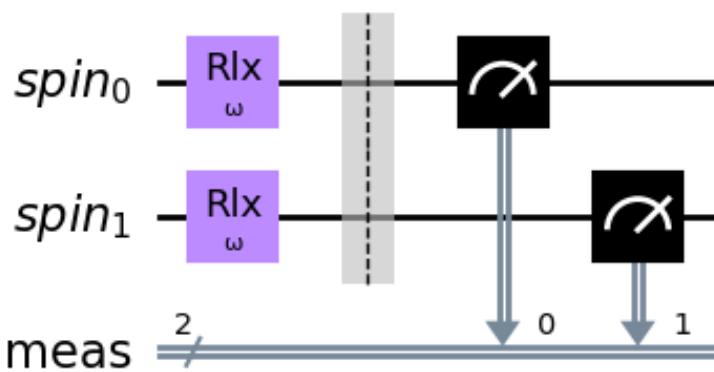
- versatile with *many* different applications
- precise and accurate
- broadly used in research and industry
- a leading quantum information platform.



The challenge

- Alice is the interested user
- Bob is the owner of the quantum hardware.
- Now they need to communicate in an efficient way.

The software stack



Alice can write a quantum circuit in
qiskit-cold-atoms and send it
to Bob.

```
Nwires = 2
backend = SpinSimulator()
qc_rabi = QuantumCircuit(QuantumRegister(Nwires, "spin"))

all_modes=range(Nwires)
omega_t = Parameter("ω")

qc_rabi.rlx(omega_t, [0, 1])
qc_rabi.measure_all()
qc_rabi.draw(output='mpl')
```