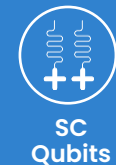


6-Q Multiplexed Power Rabi with Active-Reset and State Discrimination - 48 Hours from Unboxing

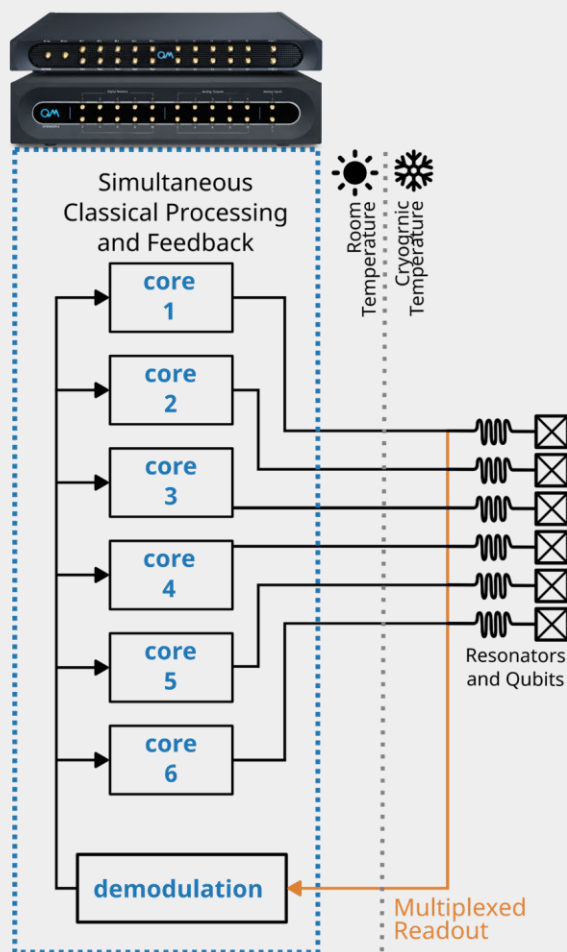


“Writing our experiments [with QUA] is easy and intuitive, and we can now focus on the physics instead.”

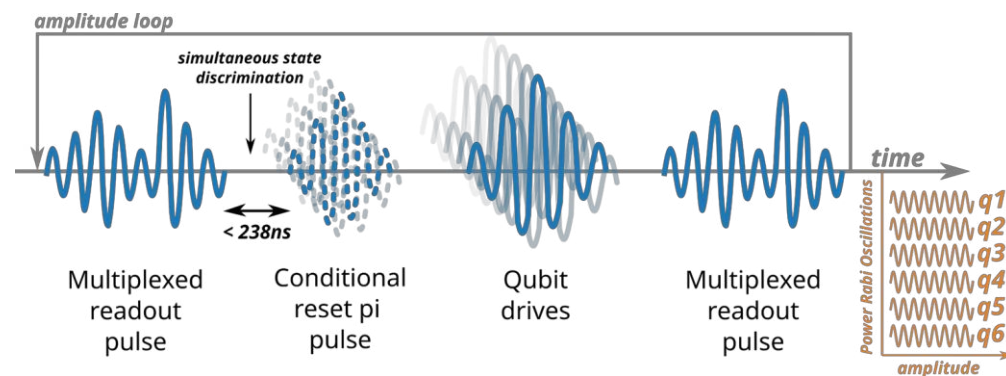
In two days we had brought up our (6-q) chip completely, calibrated all parameters, and wrote the pulse sequence of our final experiment.”

Large US Govt. Contractor

Multiplexed 6 Qubits Control with Real-Time Analysis



OPX+ and **Octave** perform simultaneous real-time control on multiple qubits, including **active reset** with **state discrimination** (in < 238 ns) and e.g., **power Rabi**.



all this in just a few lines of QUA code

Simultaneous Active Reset
Simultaneous Power Rabi

```
with for_ a in amplitudes:
    multipl_readout(I, Q, state, th=thresholds, resonators=qubits)
with for_ i in qubits:
    play('pi', qubits[i], condition=state[i])
    align() # wait for all qubits to be reset

with for_ i in qubits:
    play('pi'*amp(a), qubits[i])
    align() # wait for all qubits to be done with rotation
multipl_readout(I, Q, state, th=thresholds, resonators=qubits)
```

