



The Best Way to Quantum

Located in Boston, QuEra Computing makes advanced quantum computers based on neutral atoms. Founded in 2018, the company is built on pioneering research recently conducted nearby at both Harvard University and MIT.

Highlights:

- ✓ Our dual-mode 256-qubit machine, Aquila, is publicly accessible on Amazon Braket. As measured by the number of qubits, it is the largest publicly-accessible machine in the world.
- ✓ Dozens of organizations already use our quantum computer on a regular basis.
- ✓ We are on a path toward the "holy grail" of quantum computing: large-scale, error-corrected devices.
- ✓ We filed over a dozen foundational patents.
- ✓ We assembled a world-class team of nearly 50 scientists and engineers.
- ✓ \$20M raised
- ✓ \$15M in revenue since inception



Key applications enabled by our quantum computer:



Machine Learning

- Classification
- Regression and prediction
- Reservoir computing



Optimization

- Maximum independent set
- QUBO
- Graph coloring
- Maximum clique



Simulation

- Equilibrium quantum phases of matter
- Non-equilibrium quantum dynamics
- Quantum topological phase (spin liquids)

Working with QuEra:



Solutions

- World-class experts
- Unique algorithms
- An approach that overcomes many of the issues with gate-based machines



Premium Access

- Secure remote access to a machine
- Business service-level agreements
- Expert support
- Shared or dedicated machine time



Machine Sales

- Lease a QuEra computer
- On-site installation and support
- Perfect for integration with HPC centers

Our products:

Aquila: our 256-qubit machine on Amazon Braket

Quantum power

- 256 entangled neutral-atom qubits
- Coherence throughout the computation

Architecture

- Dual-mode: analog quantum mode today, universal gate-based mode later
- Field programmable qubit arrays

Bloqade: a high-performance testbed for neutral-atom algorithms:

Powerful and flexible

Native encoding of neutral-atom quantum features such as Rydberg-blockaded Hilbert spaces, flexible geometries, and continuous time control.

Exceptionally efficient

Supports GPU acceleration and multithreading. Deployable on clusters. Written in Julia for maximum performance.

From design to neutral atom quantum execution

The best way to develop, deploy, and execute code on Amazon Braket.

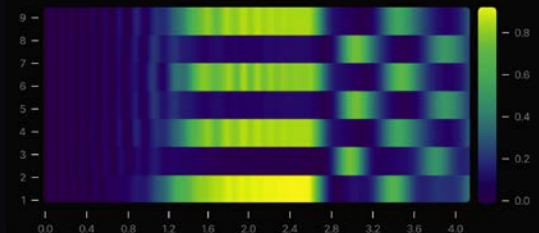
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Plotting the Results

We first plot the Rydberg density for each site as a function of time:

```
clocks = 0:1e-3:total_time
D = hcat(densities...)

fig, ax = plt.subplots(figsize = (10, 4))
shw = ax.imshow(real(D), interpolation = "nearest", aspect =
"auto", extent = [0, total_time, 0.5, nsites + 0.5])
ax.set_xlabel("time (μs)")
ax.set_ylabel("site")
ax.set_xticks(0:0.4:total_time)
ax.set_yticks(1:nsites)
bar = fig.colorbar(shw)
fig
```



Quantum computers are projected to revolutionize and disrupt many areas of business. If you want to get a head start on your competition and see what quantum can do for you, contact us today.



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