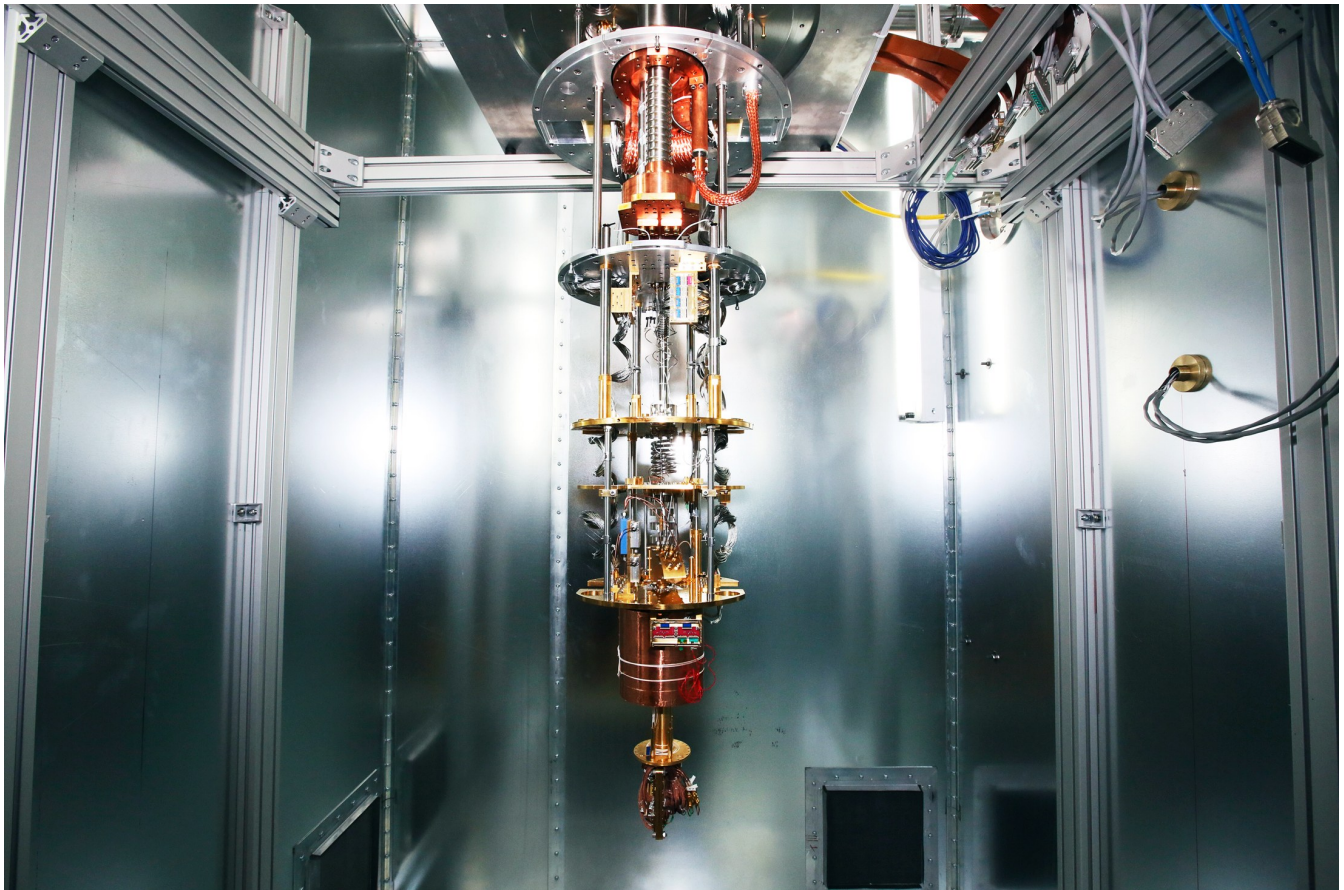


Google Claims "Quantum Supremacy"

Written by Marco Attard
25 October 2019

Google announces it has achieved what it describes as "quantum supremacy," a chip able to handle calculations impossible for traditional computers. However IBM disputes the claim as it insist classical systems can, in fact, handle the calculation in question.



The Google paper on the topic, "Quantum Supremacy Using a Programmable Superconducting Processor," was leaked last month after it was accidentally uploaded on a NASA website before it was officially published in Nature. It describes "Sycamore", a 54-qubit processor able to prove the randomness of numbers produced by a random number generation in all of 200 seconds. In comparison, Google says, the same calculation would take faster super computer no less than 10000 years. And the name of that fastest supercomputer in the world? The IBM Summit.

As a rival in the budding quantum computing field, IBM of course took umbrage to the Google claims. In fact, it argues the classical Summit system actually takes just 2.5 days to perform the equivalent task, all while offering "far greater fidelity." How come? Big Blue insists Google

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"failed to fully account for plentiful disk storage" in estimating how long a traditional supercomputer would take to perform the calculation. Furthermore, additional technology refinements, especially in the fields of both memory and storage, can only make for a faster supercomputer.

That said, scientists remain impressed by Google's quantum achievement. For instance professor John Preskill, the academic behind the term "quantum supremacy," describes it to Wired as a "truly impressive achievement in experimental physics," and says "the problem their machine solves with astounding speed has been very carefully chosen just for the purpose of demonstrating the quantum computer's superiority."

So far quantum computers remain far from being commercially viable. However, with the likes of Google, IBM, Intel, Microsoft and Alibaba, among others, all investing in the technology a quantum-based future appears to be near inevitable by this point.

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