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Building an organization that can build a quantum computer

GEORDIE ROSE, D-Wave

Quantum computation is based on a very compelling idea: that physics, and physics alone, ultimately determines what can be computed, and how efficiently. Changing the laws of physics relevant for a computing device can open up new possibilities for manipulating information, allowing better algorithms that could transform the way we live. Quantum computation has, up until very recently, been the province of basic research. It is clear that the extreme difficulty and complexity of converting this basic science into useful technology cannot occur within a basic research environment. Here I will describe the conceptual framework behind D-Wave's organization and technology development model, and compare and contrast this approach to other possible models.