Quantum Processor for Addition-Rule Based Cellular Automata

Case 14MST018

The age of technology has introduced computers that are able to perform elaborate and complex functions. Not only are computers becoming more advanced, but they are also becoming smaller. Smaller computers typically require smaller transistors. Unfortunately, decreasing the size of transistors to accommodate smaller electronics is a trade-off because smaller transistors are more likely to malfunction. The solution is a computer that can function without utilizing transistors at all. A quantum processor capable of parallel computing without the use of transistors has recently been invented. Multiple processors are wired together to form a cellular automaton that performs computations like the current technology but without the use of a single transistor. The quantum processor and cellular automaton are not only capable of replacing current electronic computing systems but can also provide quantum computing capabilities. Traditional computers use transistors to perform computing tasks by performing a logical operation on one or more logical inputs to produce a single logical output. By using symbolic substitution rules instead of transistors, the quantum processor provides a viable alternative to the current technology. For further information, please view the inventor’s abstract at:

http://meetings.aps.org/Meeting/MAR14/Session/D33.9

Benefits of Technology
• Greatly increases processing speed
• Performs parallel computing without utilizing transistors
• Allows for the use of processor chips that are much smaller than those currently being used

Potential Commercial Applications
The quantum processor can be used as a solution for limitations in current computing and can also be used to promote understanding in computing and other sciences like biology and psychology.

IP Status
Provisional Patent Filed
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Development Status
Prototype has been developed