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(54) Title: METHOD AND ARRANGEMENT FOR READING OUT THE STATES OF QUBITS IN A QUANTUM COMPUTING
SYSTEM

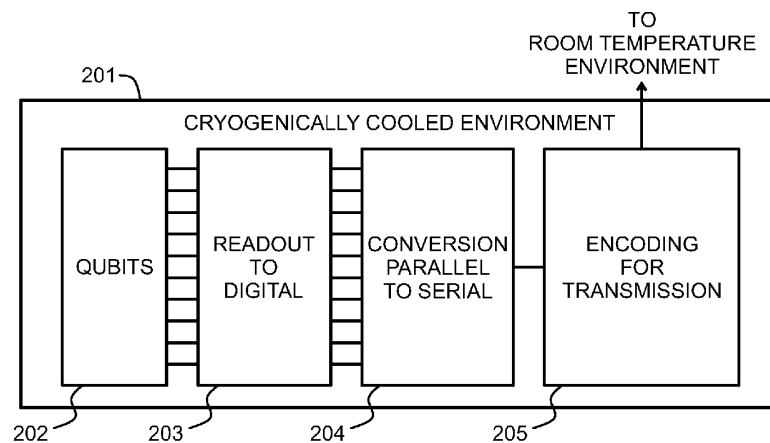


Fig. 2

(57) **Abstract:** In a quantum computing system, each qubit (202) can exhibit a coherent superposition of two quantum states. Reading out the state collapses the superposition into one of the states. Each of a plurality of threshold detectors (203) has an input controllably coupleable to a respective qubit (202). A superconductive parallel to serial converter (204) has parallel inputs and a serial output, of which the parallel inputs are coupled to the outputs of the threshold detectors (203). A transmitter (205) is coupled to the serial output of the superconductive parallel to serial converter (204) and configured to transmit a signal obtained at said serial output across a boundary of the cryogenically cooled environment (201) in which the qubits (202), the threshold detectors (203), the superconductive parallel to serial converter (204), and the transmitter (205) are located.

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