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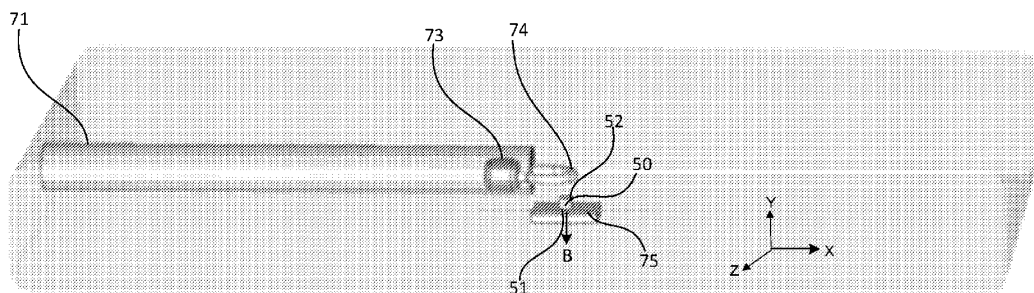


Fig. 7

(57) **Abstract:** Systems and methods for controlling one or more qubits in a quantum processor are disclosed. The system comprises a quantum processor comprising one or more spin-based qubits; and a dielectric resonator positioned in proximity to the quantum processor. The dielectric resonator provides a magnetic field. The quantum processor is positioned in a portion of the magnetic field provided by the resonator such that the portion of the magnetic field controls the spin transitions of the one or more spin-based qubits of the quantum processor.



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