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2052 (AU). **KRANZ, Ludwik**; c/- Level 2, Newton Building, UNSW Sydney, Kensington, New South Wales 2052 (AU). **KEIZER, Joris**; c/- Level 2, Newton Building, UNSW Sydney, Kensington, New South Wales 2052 (AU).

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(74) Agent: **FPA PATENT ATTORNEYS PTY LTD**; ANZ Tower, 161 Castlereagh Street, Sydney, New South Wales 2000 (AU).

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(71) Applicant: **SILICON QUANTUM COMPUTING PTY LIMITED** [AU/AU]; Level 2, Newton Building, UNSW Sydney, Kensington, New South Wales 2052 (AU).

(72) Inventors: **SIMMONS, Michelle, Yvonne**; c/- Level 2, Newton Building, UNSW Sydney, Kensington, New South Wales 2052 (AU). **MARTINIS, John**; c/- Level 2, Newton Building, UNSW Sydney, Kensington, New South Wales

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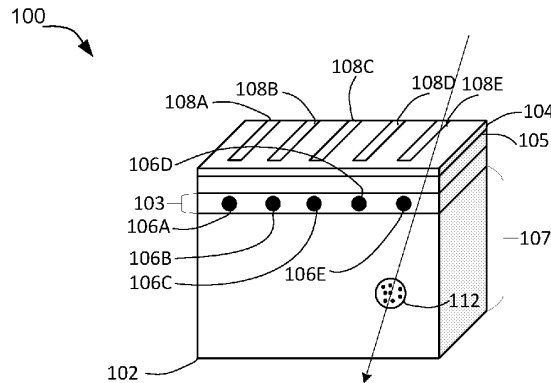


FIG. 1

(57) Abstract: Systems and method for reducing effect of high energy radiation or charge noise on solid state quantum processors are disclosed. According to an aspect of the present disclosure, a quantum computing system is provided that includes: a semiconductor substrate, comprising a bulk layer and a qubit layer and a dielectric forming an interface with the semiconductor substrate. One or more qubits are formed in the qubit layer. The system further includes a shielding structure formed either between the bulk layer and the qubit layer or between the qubit layer and the interface. The shielding structure configured to shield the qubit layer from electric field generated in the bulk layer due to high-energy radiation or shield the qubit layer from charge noise generated in the interface.

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