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## [844] Impact of screening gates on reproducible quantum dot formation

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Hole spin qubits can be implemented by accumulating holes in quantum dots (QDs) along the channel of a silicon fin field effect transistor (finFET). While the finFET design should lead to a field focusing at the tip of the fin, we frequently observe spurious hole accumulation under the gates outside the fin. To mitigate this problem, we implement a planar MOSFET platform including screening gates to constrict the channel. We perform DC measurements to investigate the quantum transport properties of these devices and explore the impact of the screening gates on QD accumulation, shape, and position. Finally, we compare transport properties of the planar MOSFETs with similarly fabricated finFET devices.

**Theoretical Work** 

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