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【526】Double Quantum Dots in an Undoped Germanium Heterostructure

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Hole spins in Germanium offer the possibility for record manipulation times due to the strong spin-orbit coupling. In addition, they should be largely immune to hyperfine noise.

Here we present electrostatically defined quantum dots hosted in a two-dimensional Germanium hole gas. This approach provides excellent control over the measured system, which we can tune continuously from a single quantum dot to a double quantum dot. We demonstrate Pauli spin blockade and measure relevant material properties. From the large g-factor anisotropy we conclude that the confined states are mostly of heavy-hole type.

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