Coherent Spin Manipulation in Semiconductor Quantum Devices

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Coherent spin control plays a vital role towards the realization of spin-based quantum logics. Here I will focus on i) how to spatially separate two spin types and then control their individual phases [1], and ii) how to form and electrically manipulate a zigzag Wigner spin chain with implications for quantum mediators [2].

Ref:

1. Shun-Tsung Lo et al., Nature Communications 8, 15997 (2017).
2. Sheng-Chin Ho et al., arXiv:1804.08602