

# Quantifying quantum steering

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### Reference:

arXiv:1311.4590 [quant-ph]

### URL:

<http://arxiv.org/abs/1311.4590> [2]

Quantum steering is a form of bipartite quantum correlations that is intermediate between entanglement and Bell nonlocality. It allows for entanglement certification when the measurements performed by one of the parties are not characterised (or untrusted) and has applications in quantum key distribution. Despite its foundational and applied importance, quantum steering lacks a quantitative assessment. Here we propose a way of quantifying this phenomenon and study the steering power of several quantum states. In particular we show that every pure entangled state is maximally steerable. Furthermore we study the steering power of several interesting states, and give strong support that states with positive-partial-transposition are not steerable.

- [02.30.-n Entanglement, nonlocality, complementarity](#) [3]
- [03.20.+w Entanglement detection/witnesses](#) [4]
- [03.70.+c Entanglement versus correlation](#) [5]

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