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Spin-active color centers in silicon carbide for telecom-compatible quantum technologies

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Propositions

accompanying the dissertation

Spin-active color centers in silicon carbide for telecom-compatible quantum technologies

1. In order to preserve the integrity of the peer-review process for scientific publishing, reviewer-coerced citations should be forbidden.
2. For determining the optimal material system as a stationary qubit to be used in a quantum-optical network, it is too early to point out the optimal system. Therefore, the scientific community should at this stage keep a broad scope for this and not direct the majority of funds and efforts towards a single material system that seems to work.
3. Everyday life will not be affected by the applications of quantum networks that are currently envisioned. This points to the need to continue research into a broader range of application possibilities.
4. Literature descriptions of solid-state impurity systems and their electronic spins are often convoluted and lack an intuitive physical picture. However, all spin dynamics reported in this thesis for the Mo^{5+} defect can be traced back to its unpaired electron. Therefore, it is fair to conceptualize this defect system as a single localized electron, affected by the SiC crystal field and the molybdenum core ion to which it is bound.
5. In order to bring down the ivory tower, academics should adopt a work-life balance that is typical for any full-time equivalent job.
6. There is no such thing as an apparent paradox.
7. Most human eyes are limited to 4K resolution for typical household television setups (with 30° field of view). Therefore, the industrial trend of fabricating TV panels with increasingly higher pixel counts is merely a marketing trick.
8. Employment regulations that enforce external advertising of open positions, even when there is a suitable internal candidate, need adjustment because in practice these do not work.

9. The OV-chipkaart (a chip-card system used for public transport in the Netherlands) is unnecessarily complicated, in particular regarding the need to check in and out while in transit, upon switching transport companies.
10. The bulk of scientific content in a PhD thesis outweighs the additional propositions to the point where the latter are unnecessary.

Tom Bosma