Single-Molecule Probes in Organic Field-Effect Transistors

Nicolet, A.A.L.

Stellingen

behorende bij het proefschrift

Single-Molecule Probes in Organic Field-Effect Transistors

1. When looking for new guest-host systems for single-molecule spectroscopy at cryogenic temperatures, one must take into account the position of all energy levels of the guest with respect to those of the host.
   Hoofdstuk 2 van dit proefschrift

2. Dibenzoterrylene in anthracene is the ideal system to study charge transport in an organic crystal via single-molecule spectroscopy.
   Hoofdstuk 3 en 4 van dit proefschrift

3. In materials where the current depends on the voltage as a power law with a large exponent, the mobility is no longer a relevant concept to discuss charge transport.
   Hoofdstuk 5 van dit proefschrift

4. Both the drift of the absorption frequency of a molecule under a dc-regime and the resonance phenomenon under an ac-excitation point to the importance of interfaces in an organic field-effect transistor.
   Hoofdstuk 6 van dit proefschrift

5. The determination of a three-dimensional single-electron displacement within a few seconds with an accuracy better than 0.006 nm as presented by T. Plakhotnik is highly optimistic.
   T. Plakhotnik, ChemPhysChem **7**, *1699 (2006)*

6. Even when it first approaches scientific knowledge, the mind is never young. It is very old, in fact, as old as its prejudices.
   Gaston Bachelard, The Formation of The Scientific Mind, 1938

7. Physics is only a theory which describes reality within certain limits and should not be confused with the very object it describes.

8. The specialisation in Sciences leads to the confinement of the mind in a specific field, while a deeper understanding of many phenomena arises from the confrontation of different perspectives.

9. One of the main obstacles in the development of Social Sciences is the difficulty to define a set of relevant and consistent observables.

10. The switch to the twelve-tone equal temperament in western music allowed greater expression through modulation. However, this has been at the price of a great loss in the available 'colours' associated to the different keys, and has led to a dramatic restriction in the number of pitches that a contemporary ear can perceive as tuned.

Aurélien Nicolet
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