

Graphene – the perfect atomic lattice (Nobel lecture by Prof. Konstantin Novoselov)

Description

www.nobelprize.org/prizes/physics/2010/illustrated-information/

So far, most of the possible practical applications for graphene exist only in our fantasies. A great deal of interest has been spurred by graphene's conducting ability. Thus graphene transistors are predicted to be substantially faster than those made out of silicon today. Maybe we are on the verge of yet another miniaturization of electronics that will lead to computers becoming even more efficient in the future.

Graphene

Since graphene is practically transparent (up to nearly 98%) whilst being able to conduct electricity, it would be suitable for the production of transparent touch screens, light panels and maybe solar cells. Also plastics could be made into electronic conductors if only 1% of graphene were mixed into them. Likewise, by mixing in just a fraction of a per mille of graphene, the heat resistance of plastics would increase by 30° C while at the same time making them more mechanically robust. This resilience could be utilised in new super strong materials, which are also thin, elastic and lightweight.

The perfect structure of graphene also makes it suitable for the production of extremely sensitive sensors that could register pollution at molecular level.

Category

1. General

Date Created

20. February 2022

Author

web45