Keynote

Progress in Graphene Materials Applications

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During the last decade graphene has shown tremendous potential to be applied in many different fields. However, graphene is currently still at a research stage, mainly laboratory scale experiments are being carried out. Nevertheless, some applications will be ready to move to pilot scale studies very soon. We should keep in mind that an advanced material could take an average of 20 years to succeed in the industrial market. [1] During this talk I will cover some of the progress that has occurred in graphene applications [2-4] such as in transparent electrodes [2] where graphene has the advantage of added flexibility but has to guarantee performance similar to that of ITO in terms of sheet resistance and transmittance. In order to use graphene as ITO replacement material it has be doped since the conductivity of pristine graphene is very low. Stable doping of graphene [2,5] is a clear challenge and it could be the reason why there are not mobile phones in the market using graphene as the transparent conductor. In addition, graphene in biosensing, as a substrate for semiconductor material growth, etc. will also be presented.

References

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