

Using nano-materials for future high frequency smart electronics, progress and challenges

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Contemporary electronics are dominated by Silicon and to some extent compound semiconductors such as GaAs, GaP, GaN and SiC. However it is increasingly clear that new materials and novel devices are needed if we want to further increase efficiency, speed and other critical aspects of performance. With the ever increasing demand for telecommunication improvements a particularly active research area is analogue electronics for wireless applications. Nanomaterials offer not only a possible pathway to increased performance but also potential for wearable, flexible and smart applications. Our approach towards a nanomaterial based electronics platform will be reviewed and remaining challenges will be discussed.