

Graphene Integration in the Electronic Industry

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Abstract

The most straightforward and economically viable way to introduce a new advanced material into the market is by integrating it into an existing industry, however, this integration comes with many challenges. Graphene devices such as sensors [1,2] and biosensors to aid in the current pandemic situation and photodetectors for future data communication and night vision camera applications are getting closer to the market and thus many aspects need to be taken into consideration. Such as the industrial growth, transfer and device fabrication of graphene at relevant throughputs and wafer scales, Figure 1. In addition, the existing electronics industry will impose certain restrictions like the need to meet strict metal contamination levels. However, the straightforward integration of graphene with off the shelf CMOS technology [3] is a clear demonstration that things are moving in the right direction. During this talk I will try to cover how to overcome some of those challenges in order to move graphene closer to the industrial market.

REFERENCES

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FIGURES

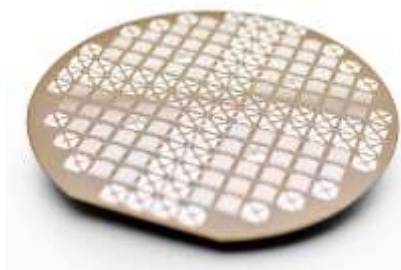


Figure 1: Graphene field effect transistors (GFETs) at wafer scale.