

Uniform Monolayer Graphene in 6-Inch Scale: its Origin and Application

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Monolayer graphene has been grown on Cu thin film in 6-inch scale at low temperature using inductive coupled plasma chemical vapor deposition. More than 99% of the film is single layer according to Raman mapping and optical microscopy. [1] Scanning tunneling microscopy and spectroscopy study reveals line structure and undisturbed spectroscopy of graphene which could be the origin of the thinner layer than thermally grown graphene on Cu foil. [2] More than 2000 Hall bars were fabricated on the 6-inch wafer and measured I_d - V_g and I_d - V_d curves. Also, screening effect for multi-layer graphene was measured using Kelvin probe force microscopy. [3]

References

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- [2] I. Jeon *et al.*, ACS Nano, **3** (2011) 1915.
- [3] N.J. Lee *et al.*, Appl. Phys. Lett., **22** (2009) 222107.