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Boron and Nitrogen co-doping of Graphene by CVD

Substitutional doping of graphene offers a chance to modify its properties for various applications. Here using low pressure chemical vapor deposition we grow graphene doped simultaneously by both boron and nitrogen. Theoretical calculations have shown that in such systems boron and nitrogen dopants tend to segregate and form hexagonal boron-nitride like islands within the graphene sheet.[1,2] Using STM we are able to observe these dopant structures with atomic resolution and show the results here.

References

[1] J. Martins and H. Chacham, Phys. Rev. B, 86 (2012), 075421

[2] K. Yuge, Phys. Rev. B, 79 (2009) 144109