

van der Waals Materials and Heterostructures for Synthesis and Applications

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Recent development of van der Waals layered materials such as graphene, hexagonal BN, and transition metal dichalcogenides have drawn much attention due to their fascinating uniquely defined physical and chemical properties. What is missing is the synthesis of singlecrystallinity and wafer-scale scalability in van der Waals layered materials including graphene and more importantly, heterostructures. In this talk, we will introduce several examples of synthesizing the graphene in monolayer and multilayers and furthermore heterostructures of other van der Waals layered materials and furthermore some examples of physics phenomena including Coulomb drag transistors and 2D ferromagnetic semiconductors at room temperature.

References

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Figures

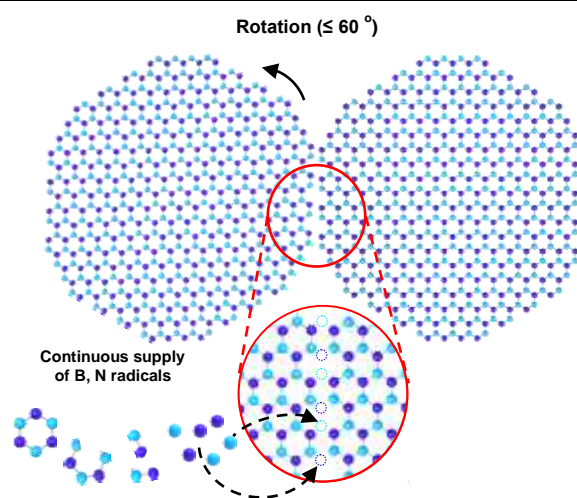


Figure 1: Self-collimated redistribution of hBN grains.