

## Time effects on the structure of graphene on 4H-SiC(0001) surface

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### Abstract (Arial 10)

Graphene was prepared by thermal decomposition of a nominally on axis semi-insulating 4H-SiC substrate on the Si-terminated face. Prior to growth, substrates were annealed in pure hydrogen to remove polishing damage. Subsequently, graphene was synthesized at 1700 °C in argon atmosphere with a pressure of 800mbar. Growth time was varied independently to investigate its effects. Graphene was characterized by Raman spectroscopy, atomic force microscopy (AFM) and Kelvin probe force microscopy (KPFM). Puckers, fingers and surface roughen are found at different time. Topographic AFM shows the surface morphology changes while Raman and KPFM confirms the graphene state.

### References

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### Figures

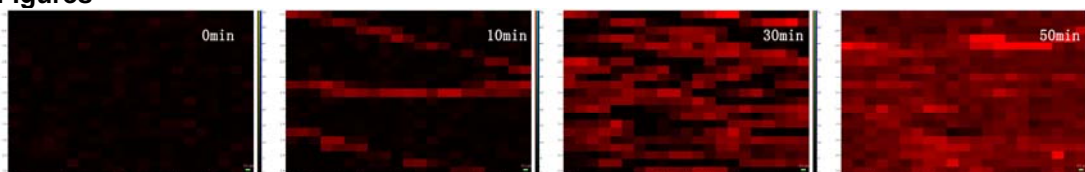


Figure 1. Raman image plotted by intensity of the 2D band

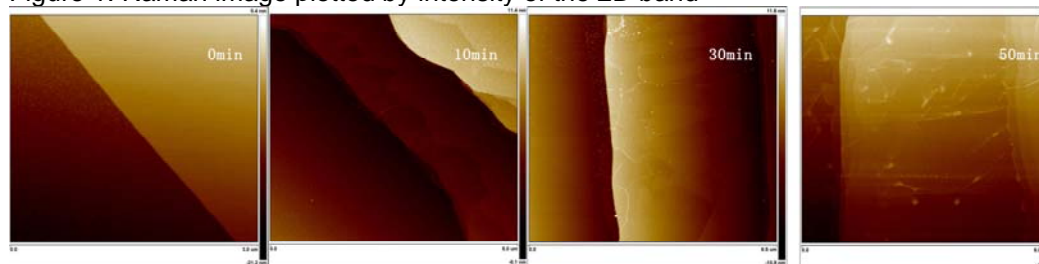


Figure 2. AFM images by ScanAsyst mode

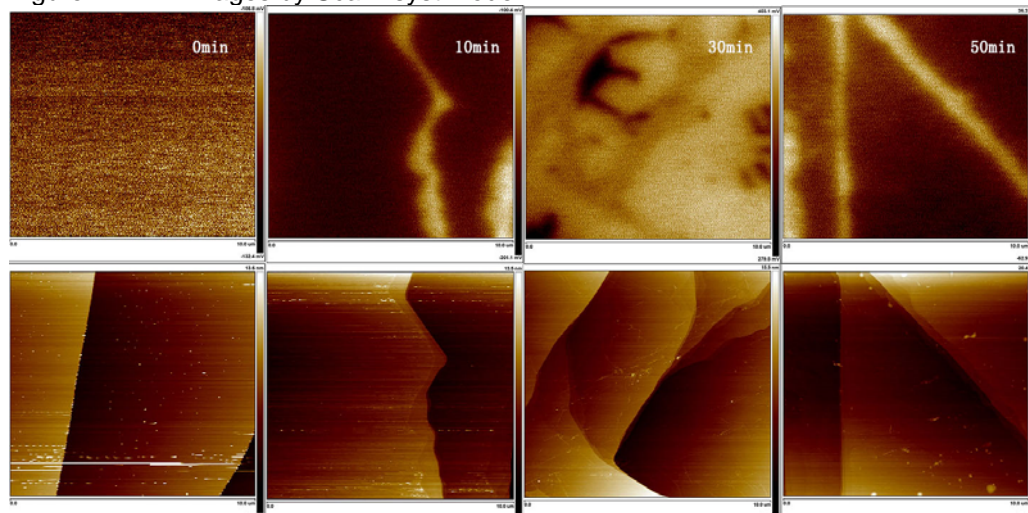


Figure 3. KPFM potential distribution image and corresponding AFM morphology