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STM Study of Sidewall Graphene Nanoribbons on SiC(0001)[1]
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Graphene nanoribbons grown on SiC sidewall nanofacets have shown interesting transport and electronic structure. We use scanning tunneling microscopy and spectroscopy (STM/STS) to explore their local atomic and electronic structure. Nanoribbon formation is found to depend critically on nanofacet orientation, nanofacet density and growth conditions. Under some conditions, nanoribbons grow predominantly on the nanofacet, under others, they can be induced to grow only at the edges of nanofacets. Significant electronic density-of-states features, resolved by STS, are determined by the different nanoribbon configurations.

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