

Motivation

We are developing microscopic metrological methods for a new nanomaterial, graphene. Epitaxial graphene on SiC substrate is a promising material for the post-Si era.

Originality

An integrated nanogap probe, which is one of our nanotools, realized a local conductance (or resistance) mapping of graphene on SiC with nanometer resolution. The measured local conductance was clearly modified in the vicinity of the steps.

Impact

Nanotools based on scanning probe microscopy (SPM) technology give us useful knowledges about microscopic properties of graphene. Understanding of graphene natures will open the door to a new carbon electronics based on graphene materials.

