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[9a-Z29-1~14]17.2 Graphene

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△ : Presentation by Applicant for JSAP Young Scientists Presentation Award

▲ : English Presentation

▼ : Both of Above

No Mark : None of Above

10:45 AM - 11:15 AM

[9a-Z29-9][The 4th Thin Film and Surface Physics Division Award Speech] Lock-in thermography for fast and precise electrical characterization technique of large area graphene sheet

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Keywords:graphene, defect detection, Lock-in thermography

Large area graphene synthesis by chemical vapor deposition (CVD) method has rapidly progressed for realizing scalable device applications. Nevertheless, the existence of local defects seriously degrades its electrical transport properties. Although several experiments based on scanning tunneling microscopy have shown the influence of defects, only the limited area were investigated in those methods due to long measurement times. Recently, we have developed a novel measurement technique “lock-in thermography” (LIT) enabling fast and precise imaging of electrical characterization for large area carbon materials. Here, we demonstrate the visualization of local defects affecting electrical transport properties of large area CVD graphene films by LIT technique.