

30/2020

INSPEM'S ONLINE WEEKLY SEMINAR

DATE : 25 SEPTEMBER 2020 | TIME : 3.15 PM
MEDIUM : VIDEO CONFERENCE (GOOGLE MEET)

 <https://meet.google.com/myd-ecux-diz>



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Topic : Growth of Large-Area Graphene on Copper Substrate using Refined Cooking Palm Oil by Spray Injector Assisted-Chemical Vapor Deposition

ABSTRACT

This research present a synthesis of large-area single-layer graphene on copper substrate using a refined cooking palm oil, a natural single carbon source, by a home-made spray injector-assisted chemical vapor deposition system. The effects of the distance between spray nozzle and substrate, and growth temperature are studied. From Raman mapping analysis, shorter distance of 1 cm and temperature of around 950 °C lead to the growth of large-area single-layer graphene with a coverage up to 97% of the measured area size of 6400 μm^2 . The crystallinity of the grown single layer graphene is relatively good due to high distribution percentage of FWHM values of 2D band that is below 30 cm^{-1} . However, the defect concentration is relatively high, and it suggests that a flash-cooling technique needs to be introduced.

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