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Controlled growth of large area multilayer graphene on copper by chemical vapour deposition ISMET I. KAYA, SIBEL KASAP, HADI KHAKSARAN, SULEYMAN CELIK, HASAN OZKAYA, CENK YANIK, Sabanci University, FACULTY OF ENGINEERING AND NATURAL SCIENCES TEAM, NANOTECHNOLOGY RESEARCH AND APPLICATION CENTER TEAM — The growth of multilayer graphene on the surface of a copper foil is studied experimentally. It has been shown that the average film thickness can be controlled by the growth time with a linear trend and the growth can be extended until nearly full coverage of multilayer graphene over the copper surface. It is observed that the impurity particles on the copper surface mediate the multilayer growth. The formation of large multilayer islands is explained by a qualitative model which takes into account the interplay between the length scales governed by the molecular mean free path of gas molecules and the distribution of the impurities.

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