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**Growth of Graphene by Catalytic Dissociation of Ethylene on CuNi(111)**[1] CARL A. VENTRICE, JR., SUNY Polytechnic Institute, PARUL TYAGI, Global Foundaries, MAX GOLDEN, TYLER MOWLL, University at Albany-SUNY — The growth of graphene by the catalytic decomposition of ethylene on a 90:10 CuNi(111) substrate was performed. The growths were done in a UHV system by either heating the substrate to the growth temperature followed by introducing the ethylene precursor or by introducing the ethylene precursor and subsequently heating it to the growth temperature. The growth using the former method results in a two-domain epitaxial graphene overlayer at temperatues as low as 550 °C. However, introducing the ethylene before heating the substrate resulted in considerable rotational disorder within the graphene film. This has been attributed to the formation of a carbide phase below 550 °C.

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