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Raman study of turbostratic graphene grown via chemical vapor deposition on metals DANIEL R. LENSKI, MICHAEL S. FUHRER, Center for Nanophysics and Advanced Materials, Department of Physics, University of Maryland, College Park, MD 20742, USA — We have grown graphene of varying thickness on metal foils (copper and nickel) and thin films (nickel) via chemical vapor deposition (CVD). We use micro-Raman spectroscopy to characterize these graphene films, both as-grown on metal and transferred to oxide substrates. Raman spectra on multi-layer CVD graphene films show the characteristic single Lorentzian 2D peak of monolayer graphene, providing strong evidence of interlayer rotational disorder in multi-layer graphene prepared by CVD on metals. We discuss the evolution of the Raman features in CVD graphene with film thickness.

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