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**Imaging stacking order in few-layer graphene** CHUN HUNG LUI, ZHIQIANG LI, ZHEYUAN CHEN, PAUL V. KLIMOV, LOUIS E. BRUS, TONY F. HEINZ, Columbia University — Few-layer graphene (FLG) has been predicted to exist in various crystallographic stacking sequences, which can strongly influence the material's electronic properties. We demonstrate an accurate and efficient method of characterizing stacking order in FLG using the distinctive features of the Raman 2D-mode. Raman mapping allows us to visualize directly the spatial distribution of Bernal (ABA) and rhombohedral (ABC) stacking in tri- and tetra-layer graphene. We find that  $\sim 15\%$  of exfoliated graphene tri- and tetra-layers is comprised of micron-sized domains with rhombohedral stacking, rather than the Bernal stacking. These domains are stable and remain unchanged for annealing to temperatures exceeding  $800^\circ\text{C}$ .

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