

Abstract Submitted  
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**Ferromagnetism in ultra-thin van der Waals materials**<sup>1</sup> EFREN NAVARRO-MORATALLA, Massachusetts Institute of Technology, BEVIN HUANG, GENEVIEVE CLARK, University of Washington, DAHLIA KLEIN, Massachusetts Institute of Technology, RAN CHENG, Carnegie Mellon University, KYLE L. SEYLER, EMMA SCHMIDGALL, University of Washington, MICHAEL A. MCGUIRE, Oak Ridge National Laboratory, DAVID H. COBDEN, University of Washington, WANG YAO, University of Hong Kong, DI XIAO, Carnegie Mellon University, PABLO JARILLO-HERRERO, Massachusetts Institute of Technology, XIAODONG XU, University of Washington — The isolation of atomically-thin crystalline layers with long-range magnetic order would open the door to new prospects in van der Waals heterostructures such as their use in spintronics. Though local magnetic moments may be introduced in 2-D crystals via doping or defect engineering, the vast majority of these materials are intrinsically non-magnetic. The family of the transition metal trihalides is an exception. We use the magneto-optical effect to study few-layer samples of a member in this family: chromium triiodide (CrI<sub>3</sub>). We will report on our measurements of magnetization and Curie temperature, as well as the determination of the critical behavior and universality class.

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