**Microscopic understanding of magnetic interactions in bilayer CrI3**

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We performed the detailed microscopic analysis of the inter-layer magnetic couplings for bilayer CrI3. As the first step toward understanding the recent experimental observations and utilizing them for device applications, we estimated magnetic force response as well as total energy. Various van der Waals functionals unequivocally point to the ferromagnetic ground state for the low-temperature structured bilayer CrI3 which is further confirmed independently by magnetic force response calculations. The calculated orbital-dependent magnetic forces clearly show that eg-t2g interaction is the key to stabilize this ferromagnetic order. By suppressing this ferromagnetic interaction and enhancing antiferromagnetic orbital channels of eg-eg and t2g-t2g, one can realize the desirable antiferromagnetic order. We showed that high-temperature monoclinic stacking can be the case. Our results provide unique information and insight to understand the magnetism of multi-layer CrI3 paving the way to utilize it for applications.