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**2D Ferromagnetic Semiconductor and Heterostructure**

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Since the discovery of graphene, a wide range of 2D materials with different physical properties have been created. However, 2D magnets are still lacking. In this talk, I will discuss our recent progress on 2D ferromagnetic semiconductors, including magneto-optical Kerr effect and photoluminescence of excitons as a function of layer thickness, magnetic field, and temperature. In addition, I will present the study of heterostructures formed by layered ferromagnetic semiconductor and monolayer non-magnetic semiconductor, which reveals strong magnetic proximity effect, spin-orientation dependent charge hopping, and magnetic domain dynamics.