**Excitons and correlated states in moiré heterostructures**

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Van der Waals heterostructures can be designed to confine electrons and holes in unique ways. One remarkable approach is to vertically stack two atomically thin layers of transition metal dichalcogenide (TMD) semiconductors. The relative twist or lattice mismatch between the two layers leads to moiré pattern formation, which modulates the electronic band structure according to the atomic registry. Single-particle wave packets can be trapped in the moiré-induced potential pockets with three-fold symmetry, leading to the formation of trapped interlayer excitons and correlated states. In this talk, I will explain photoluminescence emission of moiré confined excitons in MoSe2/WSe2. Interesting properties of moiré excitons like antibunching, large Stark shift, and doping dependence will be presented. Furthermore, correlated states, such as Mott insulating states and Wigner crystals, observed from moiré heterostructures will be presented.