Optical physics and quantum optics using moiré excitons in artificial van der Waals semiconducting heterobilayer

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Atomically thin low-dimensional semiconductors, such as two-dimensional (2D) transition metal dichalogenides, and their heterostructures have intensively studied from viewpoint of fundamental physics and optical applications [1-8]. The optically excitonic states with valley degree of freedom (valley exciton) and in the moiré potential (moirés exciton) provide the platform for studying novel optical physics of 2D materials, and their heterostructure. Here, I will talk about the selected topics of intriguing optical physics toward quantum optics and applications arising from these novel exciton systems including moiré excitons in artificial van der Waals semiconducting heterostructures [7,8].

References

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