

The 241st MANA Seminar



Tunability of Electronic Transitions Using Interface of Coupled Quantum Structures

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Size and shape controlled semiconductor quantum dots have been widely adopted in tailoring nanomaterials properties, which basically utilize band edge engineering. Long range electronic transition tunability is difficult to achieve from a single size or shape controlled quantum dot. Alternatively, coupled quantum structures offer a novel route for tuning long range electronic transitions of semiconductors via band offset engineering at the material interface. We report on a novel route of tailoring visible electronic transitions over a long-range by chemically designing coupled quantum structures. Long range tunability originated from strong coupled structure dispersion, which can not be realized from individual quantum dots. Such novel class of asymmetric coupled structures may offer a basis for diverse set of building blocks for optoelectronic devices, memories and quantum information processing.

Venue: Seminar Room #431, 4F, MANA Bldg.,

Date: January 13th, Friday Time: 15:30-16:15

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