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[19a-Z23-1~6]13.6 Nanostructures, quantum phenomena, and nano quantum devices

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△ : Presentation by Applicant for JSAP Young Scientists Presentation Award

▲ : English Presentation

▼ : Both of Above

No Mark : None of Above

10:45 AM - 11:30 AM

[19a-Z23-6][The 21st JSAP Outstanding Achievement Award Speech] Quantum nanostructures and their terahertz dynamics

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Keywords:quantum nanostructures, terahertz electromagnetic wave

Electrons in quantum nanostructures behave differently from those in bulk materials. Since typical energy/time scales of such electrons lie in the terahertz frequency region, terahertz electromagnetic waves are a very powerful means for elucidating the dynamics of electrons. In this presentation, we will discuss novel dynamical properties of quantum nanostructures revealed by using terahertz electromagnetic waves, such as Bloch oscillations in semiconductor superlattices, and discuss future prospects of device applications.