SAWANO LAB.



Strained Si/Ge heterostructures and their applications to optoelectronic devices

Department of Informatics and Electronics

Semiconductor Crystal Engineering

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Recent expansions of amounts of information and communication have been drastically enhancing power consumptions in computers from data centers to edge devices, imposing world-wide critical problems. We aim to reduce the power consumptions of semiconductor chips by means of introduction of SiGe with high mobility and light emitting capability into current Si technology.

- ☐ High mobility transistors and quantum devices using strained Ge channel 2D hole gas
- ☐ High efficiency light emitting devices and spin LED using strained SiGe/Ge quantum wells
- ☐ Light emitters and sensors using strained Ge micro bridge structures

