Faculty of Engineering
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Optical Signal Processing Circuits for Photonic Router

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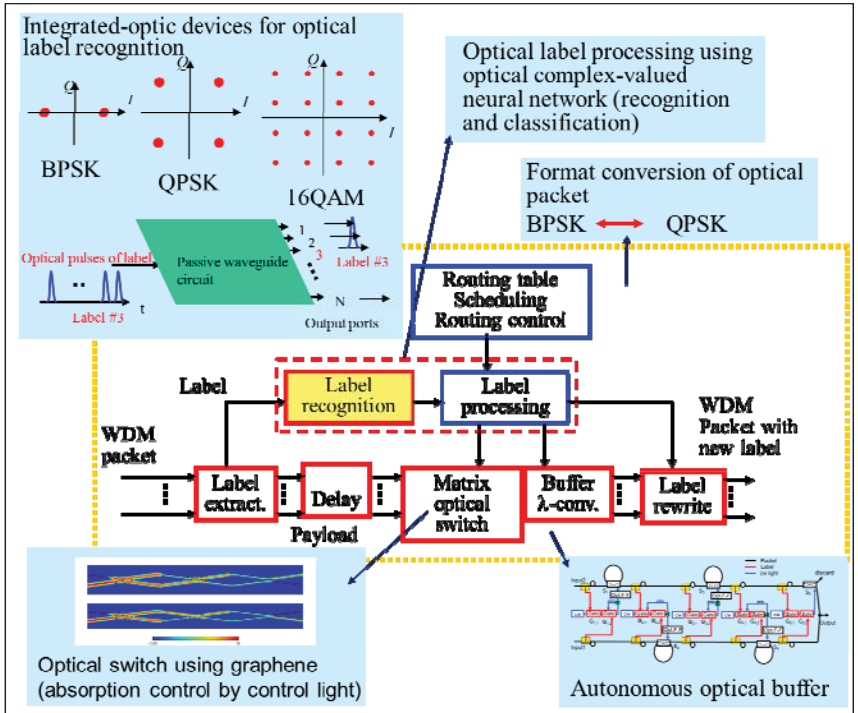
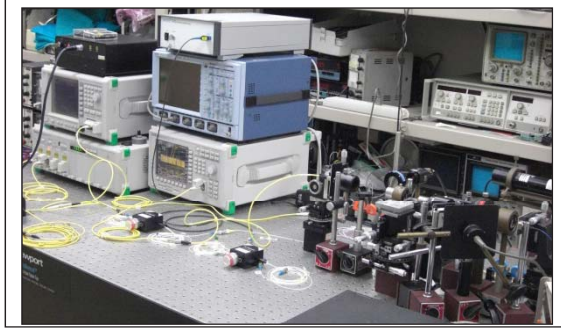


Research for photonic router



Experimental setup for all-optical switching using graphene

Content:

In future high-speed large-capacity networks, named as photonic networks, optical packet processing in network nodes such as routers is expected to be to reduce power consumption at high bit rates.

In my group, we study integrated-optic devices and optical systems for processing packets without converting to electric signals.

- Optical label processing such as label recognition and label classification. (OOK, BPSK, QPSK, 16QAM)
- Autonomous optical buffer systems which does not require external control signals.
- All-optical flip-flop circuit, which will be required to generate control signals for switching and buffering
- All-optical high-speed switches and wavelength-selective switches
- All-optical packet format conversion systems
  （between BPSK and QPSK, QPSK and16QAM etc.）

Keywords：photonic router, integrated-optics, all-optical signal processing

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