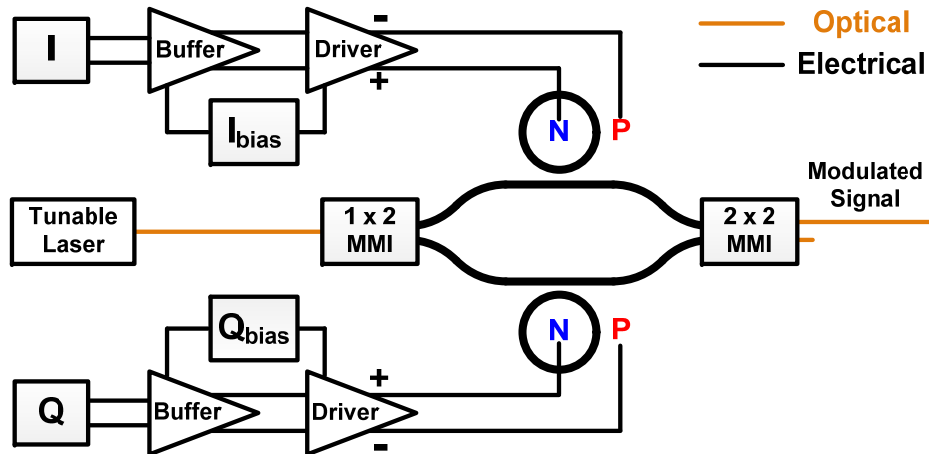


# Coherent Optical Transmitter based on Si RM

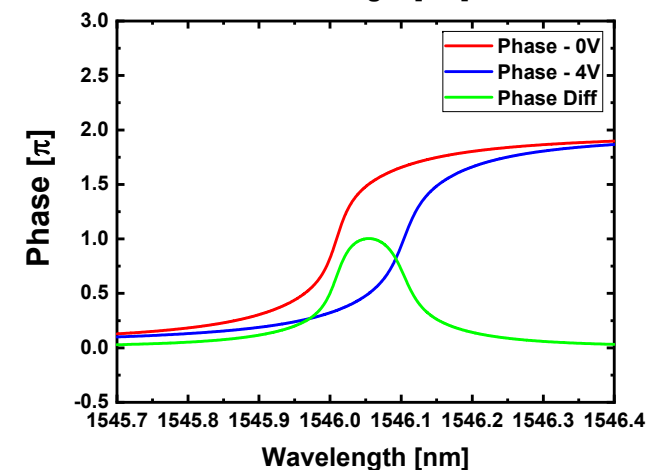
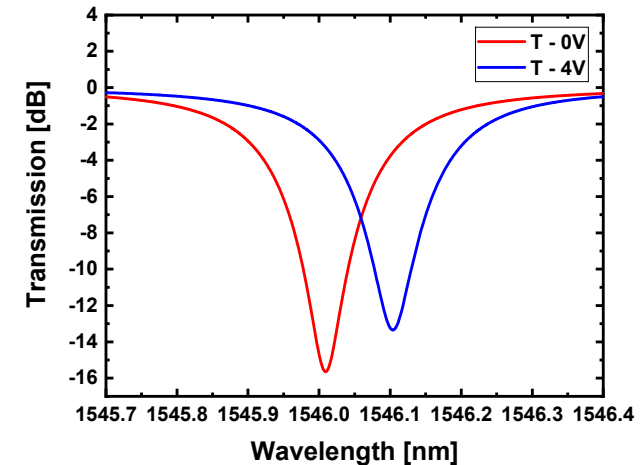
## Block diagram of QPSK transmitter



## Things to do:

- Combined simulation environment for Photonics and Electronics
- Si ring BPSK modulator optimization
- Si ring driver circuit optimization

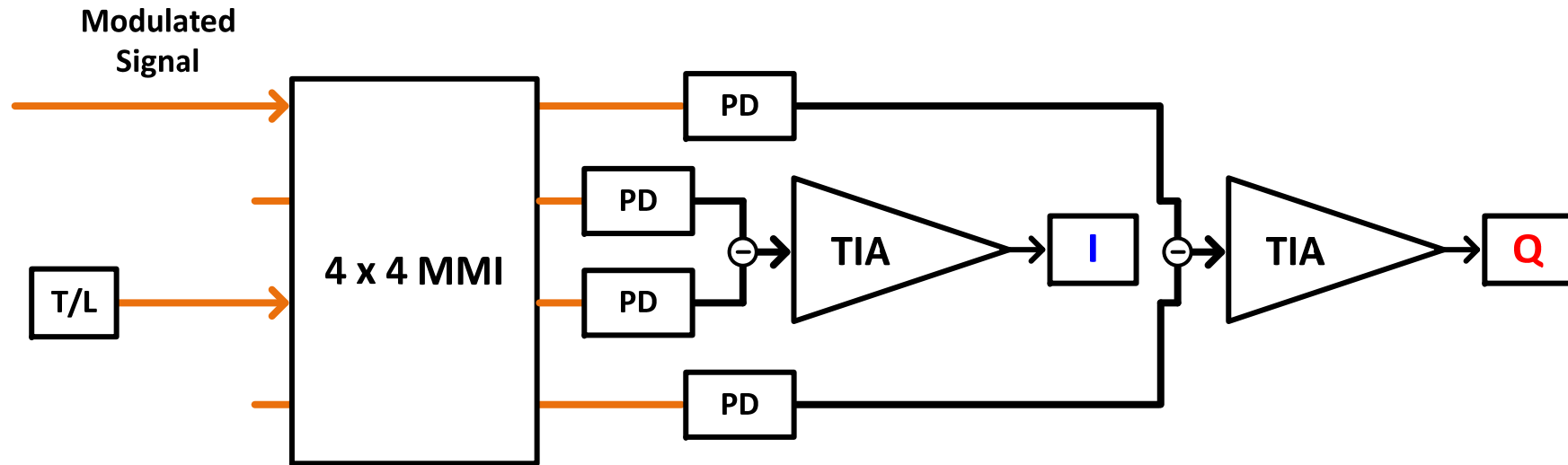
## Si ring modulator (RM)



**Optimization: Insertion loss,  $V\pi$**

# Coherent Optical Receiver

- Block diagram of coherent optical receiver



- Things to do:
  - 4 x 4 multi-mode interferometer (MMI) optimization
  - Trans-impedance amplifier (TIA) for I, Q channel design
  - DSP process after oscilloscope